THE JEWISH CHILD



PLATE I. THE SABBATH EVE EXAMINATION OF THE YOUNG JEWISH SCHOLAR. (See p. 280.)

Frontispiece

THE JEWISH CHILD

ITS HISTORY, FOLKLORE, BIOLOGY, & SOCIOLOGY

BY

W. M. FELDMAN, M.B., B.S.LOND.

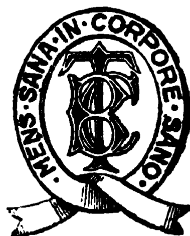
ASSISTANT-PHYSICIAN TO, AND LECTURER ON CHILD PHYSIOLOGY AT, THE INFANTS' HOSPITAL, WESTMINSTER; LECTURER AND EXAMINER IN GENERAL AND INFANT HYGIENE (LATE LECTURER IN MIDWIFERY) TO THE LONDON COUNTY COUNCIL, ETC.

WITH AN INTRODUCTION BY

SIR JAMES CRICHTON-BROWNE

M.D., D.Sc., LL.D., F.R.S.

WITH 2 PLATES AND 19 ILLUSTRATIONS



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AFFECTIONATELY DEDICATED TO MY SON

VIVIAN

ON HIS FIRST BIRTHDAY

PREFACE

This volume represents the first attempt in English, and, as far as I am aware, in any other language, to give an exclusive, comprehensive, but at the same time reliable, first-hand account of all the phases and aspects of Jewish child life. But whilst this book is encyclopædic in scope, and no pains have been spared to present a complete and fairly detailed panoramic view of the subject, it was not my aim to deal with my theme exhaustively. Any such attempt would have meant extending almost every chapter to the size of a book. I believe, however, that I have not omitted any facts which have an important bearing on the subject. The scholar or serious student who wishes to pursue the subject in greater detail will find in the numerous references plenty of signposts to show him the way.

For the benefit of those who possess a knowledge of Hebrew or Talmudics, I have added an appendix, giving, in the form of a short index, the original of some of the more interesting Rabbinical statements or sayings referred to in the body of the book.

In order to make the subject interesting reading, I have here and there interspersed a few pithy sayings or relevant anecdotes culled from Rabbinic literature. Most of these are not only instructive in themselves, but help one to appreciate the important points which they

are meant to illustrate, in the same way as, to use a Midrashic simile, the humble torch serves one to find the precious jewel.

It will be noticed that, in dealing with the several epochs which constitute the life-cycle of the Jewish child, I have not started from the moment of birth, which is only one of the turning-points in the cycle; nor even have I set out from the moment of conception. To have done that would have meant the omission of the very important so-called germinal stage, the stage when, to borrow Ballantyne's phraseology, the child still has a dual existence inside the germ cells of its parents. I have therefore started from this dual ante-conceptional stage, and passed in review every phase from that stage onwards until the child itself becomes capable of becoming a parent.

The phases considered may be put into the following tabular form:

(1) *Antenatal epoch:*
- (*a*) Anteconceptional or germinal stage.
- (*b*) Conceptional.
- (*c*) Post-conceptional.
  - (*α*) Embryonic.
  - (*β*) Fœtal.

(2) *Natal epoch.*

(3) *Post-natal epoch:*
- (*a*) Infancy.
- (*b*) Childhood.
- (*c*) Puberty = anteconceptional stage of next generation.

In describing each phase, I have begun from the earliest recorded period—viz., the Biblical—and traced

it right through the Talmudic, Midrashic and medieval periods up to the present day. I described what was known or believed about every phase in the life-cycle, from the biological, sociological, and legendary standpoints, in the classical Jewish literature, and, without any bias either way, compared such knowledge with that of contemporary non-Jewish writers of each period. To render such comparison more instructive, I have added a biographical index giving the dates at which these Jewish and non-Jewish famous philosophers flourished. I have also compared such knowledge with that of the present day. I have further compared and contrasted the physical and biological characters of the modern Jewish child with those of its non-Jewish confrère.

Modifying Wunderbar's classification, one may divide Jewish biological science into the following periods:

1. *Biblical*, from the time of Abraham to that of Ezra (*i.e.*, 2000 to 450 B.C.).

2. *Pre-Talmudic*, from the time of Ezra to the destruction of Jerusalem by Titus (450 B.C. to 70 C.E.). This period includes the time of Ben Sirah and that of the Essenes, and finishes with that of Thudas the physician (see Biographical Index).

3. *Talmudic*, from the time of Thudas to the conclusion of the Babylonian Talmud (*i.e.*, 70 to 500 C.E.).

4. *Midrashic*, sixth to ninth centuries C.E.

5. *Medieval*, embracing the period of Maimonides and Ibn Ezra (see Biographical Index) and later Jewish writers.

It is obvious that the accomplishment of such a task necessitated somewhat varied and extensive reading. Moreover, to make the account reliable it was necessary

to go to the original sources of information. This was no easy task considering the many hundreds—I might almost say thousands—of references that had to be examined and studied. If I add the fact that the book was planned, compiled, and written, during the very few odd moments snatched from a somewhat busy professional life, I believe that the kindly critic will take it as a sufficient excuse for any of the minor imperfections which he may find in this work.

I have to thank the following authorities for having kindly read the manuscript, for the encouragement they gave me, as well as for the suggestions they were good enough to make. First and foremost I wish to pay a tribute of respect to the memory of that great savant, the late Sir Lauder Brunton, M.D., D.Sc., F.R.C.P., F.R.S., etc. In spite of his failing strength, he took an enthusiastic interest in the work, and went out of his way to give me every help and encouragement. The other gentlemen who read the book and gave me useful and pertinent suggestions are Major F. W. Mott, M.D., LL.D., F.R.C.P., F.R.S.; Captain Charles Singer, M.D.; and Sir James Crichton-Browne, M.D., D.Sc., F.R.S. The Chief Rabbi has also been good enough to find time to turn over its pages and give me his valuable criticism. I thank them all, but I wish to express my special debt of gratitude to Sir James Crichton-Browne for the very flattering Introduction with which he was kind enough to favour me. I am also indebted to that eminent teratologist, Dr. J. W. Ballantyne, for the loan of Fig. 1; to Captain Redcliffe N. Salaman, M.D., for the loan of the photographs reproduced on Plate II., as well as for his reading and criticizing those portions of the book which deal with his investigations; and to Mr. Henry Snowman,

B.A., for reading a portion of the proofs. Dr. Kelynack also read the first few chapters and encouraged me to go on with the work.

Lastly, it gives me great pleasure to record my very great indebtedness to that eminent Rabbinical scholar, my friend Rabbi A. Hyman. Not only have I derived considerable help from his classical Hebrew Biographies of the Rabbis, as well as from his other important contributions to Rabbinic literature, especially his Index to the Agadas in the Talmud, Midrash, etc.; but he was also so extremely kind as to verify all the Talmudical and other Rabbinical references throughout the book. To any ordinary scholar, this would have meant many weeks of hard work; but such is Mr. Hyman's erudition that he accomplished the task in as many days.

While I believe that all the Rabbinical quotations have been correctly translated, the translations are not necessarily verbatim ones, except in the case of the parts that really matter. In any case, it is only right to state that the full responsibility for the translation and interpretation of these quotations must rest on myself alone.

W. M. FELDMAN.

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LIST OF WORKS FREQUENTLY CONSULTED

IN ADDITION TO NUMEROUS OTHER BOOKS AND PERIODICALS IN HEBREW AND MODERN LANGUAGES, MENTIONED IN THE TEXT, WHICH HAVE ONLY BEEN OCCASIONALLY REFERRED TO.

OLD AND NEW TESTAMENT.

TALMUD (Babylonian and Palestinian or Jerushalmi), with the usual commentaries—viz., Rashi, Tosafoth, Rambam, etc. In the footnotes, the Palestinian Talmud is indicated by the prefix "Jer." or "J.," standing for Jerushalmi.

MIDRASH RABBA, TANCHUMA, etc.—Midrash Rabba is indicated by the letter R. Thus, Exod. R. stands for Midrash Rabba to Exodus.

JEWISH ENCYCLOPÆDIA:

OZAR ISRAEL (being practically a Hebrew edition of the Jewish Encyclopædia).

SHULCHAN ARUCH.

I. ABRAHAMS: Jewish Life in the Middle Ages.

M. FISHBERG: The Jews.

M. GRÜNWALD: Hygiene der Juden.

A. HYMAN: Works mentioned in the Preface.

J. JACOBS: Jewish Statistics.

A. RUPPIN: The Jews of To-Day.

J. PREUSS: Bibl. talmud. Medizin.

A. H. SAYCE: The Races of the Old Testament.

D. SCHAPIRO: Obstétrique des Anciens Hébreux.

REV. B. SPIERS: School System of the Talmud.

WUNDERBAR: Bibl. talmud. Medizin.

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INTRODUCTION

Dr Feldman's book on the Jewish Child is a work of unique scholarship, of deep scientific insight, of perfect lucidity, and of great literary charm. Learned in all the learnings of the Hebrews, and well versed in modern biology, Dr. Feldman has produced what might be called a medley. But it is a medley instructive and entertaining, showing how Rabbinical and Talmudic precepts anticipated many of the hygienic teachings of to-day, and linking Oriental imagery with statistics and mathematical analysis. It is an historical excursion varied and picturesque, and a philosophical treatise at once simple and profound. It contains, no doubt, drawn from the records of the past, a good deal of archaic physiology, doubtful anthropology, and ethics, not in accord with existing notions; but it contains also a sound exposition of the most recent developments of these subjects.

With a not unnatural bias, Dr. Feldman is perhaps inclined to attach too much significance to Rabbinical writings, reading into them more wisdom than they warrant; but at the same time he brings to light a remarkable body of evidence of their subtle knowledge of human nature and of their practical sagacity, and in doing so he regales us with pungent proverbs, pretty fables, quaint metaphors, and touches of humour.

Dealing with subjects like marriage and eugenics, heredity, racial purity and genetics, it is inevitable that Dr. Feldman should sometimes fail to carry his reader with him. He gives a full and admirable statement of the Mendelian theory, but his conclusion in connection with it, founded on an investigation by Dr. Salaman, that the Jewish type of face is a recessive character, will not, perhaps, obtain general assent. The numbers included in Dr. Salaman's inquiry are too few to justify any safe conclusion, and the decision as to whether a physiognomy was Jewish or Gentile must have been in many cases difficult and doubtful.

The Rabbis are not always agreed amongst themselves, so Dr. Feldman may be excused if he is sometimes betrayed into inconsistency. He emphasizes the fact that the Rabbis, two thousand years ago, arrived at a conclusion essentially the same as that which living biologists have adopted—the conclusion that, whilst environment may have some slight effect in influencing the welfare of the child, its influence is small compared with that of heredity. It is Nature, he argues, and not nurture, that counts. But all the subsequent chapters of his book are devoted to insisting on the potent effects of a well-ordered environment on the Jewish child. He shows how nurture, according to Jewish methods, from the antenatal period up to puberty, confers, and always has conferred, signal advantages on the Jewish child, and may be instrumental in building up a vigorous and well-balanced constitution. And it is this part of his work that will attract most attention, and that is calculated to make it useful. The people of this country cannot hope to share in the prepotency that Dr. Feldman claims for his race; but they can profit by the experience

of that race, and in part imitate the regimen that has, it is alleged, for ages helped that race to rear exceptionally healthy, beautiful, and clever children.

At a time when the saving of infant life has become a matter of such vital importance, special interest attaches to Dr. Feldman's study of embryology, of the hygiene of pregnancy, of obstetrics, and of nursing. In connection with each of these subjects he records judicious foresight and salutary ordinances, of a minuteness and stringency, however, that would not be tolerated now, mixed up with fantastic speculations and illuminative metaphors. He discloses the inner meanings of ceremonial observances and the practical bearings of the symbolical.

On the relations between parents and children, and on education (physical, intellectual, and moral), Dr. Feldman has much to say that imparts freshness to these somewhat threadbare themes, and he makes it clear that Hillel was the forerunner of Montessori. He is eminently suggestive, richly allusive, keenly introspective. He has made a novel and notable contribution to pedagogics and pediatrics, and no one concerned with these subjects, or with ethnology, or with physiology in its legendary aspects, can henceforth afford to ignore his researches.

Dr. Feldman's book is not only readable, but fascinating, except where it deals with coefficients, and will, I feel sure, command a large circle of readers.

JAMES CRICHTON-BROWNE.

ERRATA

NOTE.—Whenever there is a discrepancy between a reference as given in the Footnotes and in Appendix II., the latter is to be taken as the correct one.

Abboth, Abaye, Nidah should be spelt throughout *Aboth, Abbaye, Niddah.*

P. 46, heading: Bechoroth 7*b* *should be* Bechoroth 8*b*.

P. 49, l. 11: 393 *should be* 397.

P. 54, l. 29: "bye colour" *should be* "eye colour."

P. 54, l. 30: 393 *should be* 396 and 397.

P. 59: The Zohar was most probably written by Moses de Leon in the thirteenth century, and not by Isaac the Blind, as given in the note.

P. 85, footnote 4: Rasenproblem *should be* Rassenproblem.

P. 92, footnote 2: Bechoroth 7*b* *should be* Bechoroth 8*b*.

P. 98, l. 9: p. 8 *should be* p. 81.

P. 111, footnote 1 should come as footnote 1 on p. 112; and footnotes 2, 3, 4, and 5 should be numbered 1, 2, 3, and 4 respectively.

P. 112, footnote 1 should come as footnote 5 on p. 111.

P. 133, footnote 3: Bechoroth 5*a* *should be* Bechoroth 8*a*.

P. 133, footnote 4: Bechoroth 7*b* *should be* Bechoroth 8*b*.

P. 135: Quotation 5 is possible of another interpretation, as follows: During the first three months the embryo is in the true pelvis, during the second three months in the false pelvis, and during the last three months in the upper part of the abdomen.

P. 137, l. 22: *fœtus papyraceus* should be *? fœtus papyraceus.*

P. 191, footnote 9 *should read* Chulin 10*a* and *b* and 49*b*; footnote 10 *should read* Baba Bathra 98*b*.

P. 192, l. 24: 369 *should be* 370.

P. 383: I have not been able to verify the statement attributed to Schwartz regarding the mortality of Jews from smallpox in the seventeenth century.

THE JEWISH CHILD

PART I
GENERAL SURVEY

CHAPTER I
INTRODUCTION

"The Rabbis have philosophized as follows: From the verse in Num. x. 36, 'Return, O Lord, to the myriads of thousands of Israel,' one may infer that the Divine Presence does not rest on less than two myriads of thousands of Israel. Hence, if there is one less than that number, and there be one man through whose negligence that one is not forthcoming, it surely follows that such a man causes the Divine Presence to be removed from Israel" (Yebamoth 63*b* and 64*a*).

The possession of a child, especially of a male child, was, and still is, considered by the Jews as the greatest blessing God could bestow upon man. "Lo, children are an heritage of the Lord," says the Psalmist.[1] It is therefore no wonder that many references to the care of children occur in the earliest as well as the later Jewish writings.

Preparation for the Child.

Out of 613 precepts which every Jew is enjoined to obey, that of reproduction is the most important. When, according to the Bible, God created man and

[1] Ps. cxxvii. 3.

woman, the first blessing that He gave them was, "Be fruitful, and multiply, and replenish the earth."[1]

The Talmud mentions that in the ideal future a woman will give birth to one child daily.[2] The principal object of marriage is, therefore, propagation of species,[3] and he who does not fulfil this injunction is considered by Rabbi Eliezer "as one who commits murder."[4] Some Rabbis are still more exacting, and even require a certain minimum number of children before considering that the object of marriage has been achieved. Thus, according to some it is essential that there should be at least one male and one female child born, and according to the School of Shammai[5] the necessary minimum is at least two children of each sex. "Children," says the Talmud, "are a bond of union between husband and wife."[6] Sterility was considered the greatest curse, and he who had no children was, like the blind, the pauper, and the leper, considered the same as a dead man.[7] Rachel, when she had no children, said to Jacob, "Give me children, or else I die;"[8] and when she gave birth to a son she said, "God has gathered in my shame."[9] "He who leaves children," says the Talmud, "is never considered as dead." The Rabbis infer this from the expressions used in the Bible to describe the deaths of David and Joab. The former, who left children, is described as "*slept* with his fathers"[10]; whilst the latter, who died childless, is spoken of as having *died*.[11] According to the Shulchan Aruch (the collective name of a book in four volumes —Eben Haëzer, Choshen Hamishpat, Yorë Dëah, and

[1] Gen. i. 28. [2] Kallah R. ii. and Sabbath 30*b*.
[3] Sotah 12*a*. [4] Yebam. 63*b*. [5] *Ibid.*, 62*a*.
[6] Keth. 50*a*. [7] Nedarim 64*b*. [8] Gen. xxx. 1.
[9] Gen. xxx. 2, 3. [10] 1 Kings ii. 10. [11] Baba Bathra 116*a*.

Orach Chayim, written by Joseph Karo in the sixteenth century), which is the authoritative religious law book of the Jews, "Marital relations should not be carried out with the object of satisfying one's animal passions, but with the idea of establishing a family which should serve God and be useful to mankind."[1] Every connection which has not for its object the propagation of species is like adultery, says the Talmud,[2] and hence according to Josephus[3] the Essenes (a small ascetic Jewish sect in the time of Jesus) abstained from intercourse during pregnancy. Whilst among the Mohammedans the acme of pleasure in the world to come is of a purely sensual nature, the ideal of future bliss as pictured in the Talmud is for the righteous to sit with crowns on their heads, enjoying the brightness of the Divine Presence; for there is no such a thing in heaven as eating, drinking, or sexual indulgence.[4]

The begetting of children is a duty which must not be neglected, even if one has reason to believe that the resulting offspring are not likely to be desirable acquisitions to society. In other words, the aim is to be to produce a "maximum," though not necessarily an "optimum" number of children. When King Hezekiah was sick the prophet Isaiah came to visit him, and informed him that he was about to die and not to live;[5] this, the Talmud interprets, means that he was to die in this world, and not live in the next, because

[1] Eben Haëzer xxv. 2; see also Sotah 12a.

[2] Yebam. 61*b*.

[3] "Jewish War," ii., ch. viii. 13.

[4] Berachoth 17*a*. Sir Oliver Lodge, in his recently published spiritualistic book "Raymond, or Life and Death," alleges that his dead son told him that the feeling of love between men and women in the spiritual world is of a different quality, and that "there don't seem to be any children born here."

[5] Isa. xxxviii.

he did not fulfil the commandment of procreation. When Hezekiah excused himself by saying that by the aid of the Holy Spirit he could see that his issue would be unworthy, Isaiah replied that it was not his business to fathom God's mysteries, and that he should have done what was his duty. Hezekiah then begged that he might recover and be allowed to marry the prophet's daughter, so that in virtue of his own, as well as of the prophet's, privilege he might still have worthy children. The prophet refused, and said that he could not alter the decree, when Hezekiah cut him short, and said, "Do thou leave me, for I have it from my ancestors' house that 'even when a drawn sword lies upon one's neck, he should not despair.'"[1] Hezekiah recovered, and at the age of forty-two had a son (King Menasseh) born unto him, who did not follow in his father's footsteps, but gave himself up to heathen worship.[2]

The Talmud also relates that, when Pharaoh issued the decree that all male children born to Jews should be thrown into the river,[3] Amram, the father of Moses, said that it was useless to beget children, and therefore divorced his wife. Everybody followed his example and did the same. His daughter then said to him, "Father, thy decree is harsher even than Pharaoh's, since Pharaoh's decree applies only to male children, whilst thine includes both male and female; Pharaoh's decree only applies to this world, but thine applies to this world as well as the next." Amram then took his wife back, and all Israelites followed his example.[4]

This endeavour "to spread a layer of human protoplasm of the greatest thickness over the earth" (to

[1] Berachoth 10*a*.
[2] 2 Kings xxi.
[3] Exod. i. 22.
[4] Sotah 12*a*.

borrow a metaphor from Bateson) was the exact opposite of the Platonic idea, as expressed in the "Republic" (460). Plato fixes the number of the State at 8,000, and to attain this end the number of marriages is restricted.

Good-looking Children.

But it was not considered enough merely to have children. It was the ideal of the Jews at that time to perpetuate a race of healthy, beautiful, and clever men and women, and, as we shall see later, they formulated certain rules and principles which aimed at the realization of that ideal. That their efforts were crowned with success is seen from the statement that "in the eyes of the Chasdean women the Jewish youths put the sun to shame with their beauty,"[1] and that the good looks of the Jewish children excited the envy of the Romans[2] (see p. 10).

Jews were great lovers of the beauty of Nature as a whole, but especially so of beautiful men and women. It was said by them with pride that ten measures of beauty came down into the world; nine of these went to Jerusalem, and one to the rest of the world.[3] It was also said that, as a reward for their kindness to exiles, God made the people of Bari (a place in Palestine which, according to some authorities, is the present Caucasus, and according to others a province in Phœnicia)[4] better-looking than any other people in the world.[5]

On seeing a beautiful person, animal, or plant, or on

[1] Sanhedrin 92*b*. [2] Gittin 58*a*. [3] Kiddushin 49*b*.

[4] See A. S. Herschberg's article in *He'Atid* (Hebraische Zeitschrift für Literatur und Wissenschaft des Judentums), vol. iv., and the criticism thereon by Professor Krauss.

[5] Pesikta R. xxviii. (quoted by Herschberg, *loc. cit.*).

smelling something pleasant, it is a duty to offer a benediction.[1] That the Jews were great lovers of knowledge and wisdom will be sufficiently evident from a reference to the chapters on Education. The High Priest had to be better-looking than the others.[2] The same was the rule amongst the Greeks.[3] The members of the Sanhedrin had to be men of wisdom and good appearance.[4] But learning took precedence over priesthood,[5] and even a bastard who was learned was considered more highly than an ignorant high priest.[6]

What were the Characteristics of Beauty?

The factors which constituted beauty were the following:

1. **Height and Vigour.**—Good height was one of the first requisites of good appearance.

The Talmud says that "God is pleased with tall people,[7] and that the Divine Presence does not rest on persons except they be either clever, strong, or rich."[8] The members of the Sanhedrin were very tall,[9] and the height of the Levites is estimated by some, almost certainly erroneously, as 10 cubits, which is approximately equivalent to 15 feet![10]

But height much above the ordinary was considered as much of a defect as height much below the average, and he who saw either one or the other had to pronounce the benediction: "Blessed be He who creates people

[1] Berachoth 43*b* and 58*b*, Rosh Hashanah 11*a*, and Abodah Zara 20*b*. [2] Yoma 18*a*.

[3] See Hermann Weiss, "Kostümkunde," Stuttgart, 1860, vol. i., pp. 786, 787.

[4] Sanhedrin 17*a*. [5] Abboth vi. 45. [6] Horioth 13*a*.

[7] Bechoroth 45*b*. [8] Sabbath 92*a*. [9] *Ibid.* [10] *Ibid.*

out of the ordinary."[1] Hence two very tall or very short persons should not marry, lest their offspring's stature be abnormal[2] (see p. 9).

Medium height was the most beautiful, and there is abundant evidence to show that the average height of a Jew in the times of the Talmud was between 5 feet 6 inches and 6 feet.

Thus, according to Rashi's Commentary to Sabbath 92*a*, the height of the Levites up to their shoulders was 3 cubits. But since anthropometric measurements show that the total height of a person equals five-fourths of his shoulder height, therefore the height of Levites must have been $\frac{15}{4}$ cubits $= \frac{15}{4} \times 17\frac{3}{4}$ ins. $=$ 5 ft. $6\frac{1}{2}$ ins.

Other evidence that the *shoulder height* of an average person was 3 cubits is found in the question of ritual baths, whose minimum capacity in order to afford maximum immersion, exclusive of the head, is one whose dimensions are — length, 1 cubit; breadth, 1 cubit; depth, 3 cubits. (The capacity of such a bath is 40 saah.)[3]

Further, the Talmud lays down a law that any person who builds a wall in front of somebody else's window must take care that the wall should be at least 4 cubits lower than the window, in order that he may not be able to look through the window from the top of the wall.[4]

This gives the maximum height of a person (up to his eyes) as under 4 cubits, or 5 feet 11 inches (which would make his total height less than 6 feet 2 inches).

Also, the family graves in Palestine were 4 cubits long,[5] which means that the ordinary height of a person was less than 4 cubits—*i.e.*, less than 5 feet

[1] Jer. Berachoth ix. [2] Bechoroth 45*b*. [3] Pessachim 108*a*.
[4] Baba Bathra 22*b*. [5] *Ibid.*, 100*b*.

11 inches. The average height of modern Jews is about 165 cm. (5 ft. 6 ins.), which is about 3 cm. (or a little more than 1 inch) less than that of the non-Jewish population among which they live.

According to a Talmudical statement, there is a growing tendency for the height to diminish with the progress of ages. Thus, there is a statement to the effect that "Abba Saul was tall for his generation, but R. Tarphan only reached his shoulder; R. Tarphan was tall for his generation, but R. Meir only reached his shoulder; R. Meir was tall in his generation, but Rabbi only reached his shoulder; Rabbi was tall in his generation, and R. Chiya only reached his shoulder; R. Chiya was tall in his generation, and Rav only reached his shoulder; Rav was tall in his generation, and R. Judah only reached his shoulder; R. Judah was tall in his generation, and Ada only reached his shoulder."[1]

It is obvious that the statement cannot be taken literally; for if we did, then it would follow that Ada was only $(\frac{4}{5})^7$—*i.e.*, approximately one-fifth of the height of Abba Saul, which is of course absurd. What is meant by the statement is that, as Pliny remarked, each generation is of smaller average height than that of the preceding one.[2] It has been suggested that the above saying applies to the mental greatness rather than the height of the Rabbis mentioned; but it seems to me that such an explanation is ruled out by the fact that the word mentioned is *aruch*, which means long, and not the ambiguous one *gadol*, which may mean either big or great.

The Rabbis were very fond of making exaggerated statements, which, however, have to be taken figuratively (see p. 10; also Education, p. 281).

[1] Nidah 24*b* and 25*a*. [2] Pliny, vii. 16.

2. **Shape of the Head.**—Several references to the shape of the head show that roundness was considered ugly. A man enumerating the ugly features of his wife mentioned roundness of the head as one of them[1] (see p. 12). Again, a man wanting to make fun of Hillel, who was a Babylonian, asked him why the Babylonians had round heads.[2] (A different version of the same story states that the man asked Hillel why the Babylonians had long heads.)[3] (See p. 16.)

3. **Complexion.**—Another item of beauty was a mean between blonde and brunette complexion. Thus, R. Ishmael said that the children of Israel are neither dark nor blonde, but something between the two.[4] (Indeed, according to some, the name Shem, one of the sons of Noah, from which the word Semitic is derived, contains the Assyrian root *sama*, which means olive-coloured.)[5] Hence dark people and red people were not suitable for the priesthood,[6] and because they liked to perpetuate that Jewish type they advised against the marriage of two very dark or light complexioned people.[7]

Blue eyes were another mark of beauty. The same applied to dark[8] curly[9] hair. This is seen from the following anecdote: Simeon the righteous (who was a Cohenite) said: "I never partook of the trespass offering of a Nazarite[10] except once. A Nazarite once came from the south; he had beautiful eyes, a handsome face, and his hair was curly. I said to him: 'My son, why didst thou vow to become a Nazarite, which will necessitate the cutting of thy beautiful looks?' and he answered:

[1] Nedarim 66*b*.
[2] Sabbath 31*a*.
[3] Abb. d. R. Nathan xv.
[4] Negaim ii. 1.
[5] Sayce, A. H., "The Races of the Old Testament," London, 1891, p. 41.
[6] Bechoroth 45*b*.
[7] *Ibid.*
[8] Gen. R. xcviii.
[9] Num. R. xviii.
[10] See Num. vi.

'I was my father's shepherd, and one day, as I was drawing water from the well, I saw in it the reflection of my face. I became so conceited that my evil spirit began to urge me on to give myself up to sin which would deprive me of the world to come; but I prevailed upon it, and said: "I swear by the Almighty God that I shall shave off my hair and sacrifice it to the Lord."' I then kissed him on his head, and said: 'My son, may there be many such Nazarites in Israel.'"[1]

A rubicund or rosy face,[2] nice teeth, nice nose, and nice calf muscles, were other features of beauty. The Midrash, in describing a handsome young man, says of him that he was tall, had nice teeth, black hair, and a nice nose.[3] If the nose is bigger than that of an average person of the same size, by the width of the little finger, it is a defect.[4]

"He who wishes to have an idea of the scintillating beauty of R. Yochanan," says the Talmud, "should take a cup of refined silver, fill it with the pips of a red pomegranate, surround it with a bouquet of red roses, and place it between the sun and the shade. Such a radiant sight slightly resembles in beauty that of R. Yochanan's face." He had, however, no beard, and "because of this defect," continues the Talmud, "his beauty did not approach that of R. Kahana, who had a portion only of the beauty of R. Abahu, who had a portion only of the beauty of the Patriarch Jacob, who had a portion of the beauty of Adam."[5] This is probably a hyperbolical expression of the belief that

[1] Nedarim 9*b* and Gittin 58*b*.

[2] Gittin 58*a*.

[3] Num. R. xviii.

[4] Bechoroth 44*a* and Rashi, *ad loc.* Maimonides, *ad loc.*, says that the correct size of the nose is the length of one's own little finger.

[5] Baba Metzia 84*a*.

succeeding generations go on diminishing in good looks (compare p. 8).

Again, it is related that the son and daughter of R. Ishmael ben Elisha were taken prisoners by two different persons. The latter afterwards met, and each said to the other that he had a slave that was unequalled in beauty, and arranged a marriage between them in order that they might share the offspring. The brother and sister met in prison, and fell upon each other's neck and wept until they died.[1]

Of R. Ishmael the High Priest it was said that he was so wonderfully beautiful that, when he died as a martyr, the Emperor's daughter had the skin of his face removed and preserved by means of various balsams, and that this is still to be seen in the Museum at Rome.[2]

Further, the Talmud makes the following statement: "In former times the foremost Romans were in the habit of having paintings of beautiful faces over their beds in order that by looking at them *tempore coe undi* they might beget beautiful children; but from now onwards (*i.e.*, since the destruction of the Temple) they cause Jewish youths to be tied to their beds instead"[3] (so radiant was their beauty). (See p. 177.)

But the greatest value was attached to beauty in women. It was said that the matriarchs were sterile in order that they might preserve their beautiful figures and retain their husbands' affection.[4]

Amongst the requisites of beauty in a woman, R. Ishmael the son of R. José enumerates a beautiful head, beautiful hair, eyes, ears, nose, lips, neck, waist, and

[1] Gittin 58*a*. [2] Aboda Zarah 11*b*, Rashi. [3] Gittin 58*a*.
[4] See Midrash to Canticles ii. 14, and Yebamoth 34*b*.

feet, as well as a beautiful name.[1] Thus, Esther means the star Venus.[2] (See Names, Chapter XIV.)

The following cynical anecdote is recorded in the Talmud: A man wanted to separate from his wife on account of her ugliness. When the pair presented themselves before R. Ishmael the son of R. José, the husband remarked that if only his wife had one becoming feature he would be willing to continue living with her. The following dialogue then ensued between the Rabbi and the husband: "Has she perhaps a nice head?" asked the Rabbi. "It is round," was the trite answer. "What about her hair?" "They are like flax." "And her eyes?" asked the Rabbi next. "They are chronically inflamed." "And how about her ears?" "Oh, they are long and overhanging." "Perhaps her nose is of a nice shape?" "It is big and chronically obstructed." "Her lips?" "They are thick." "Her neck?" "Very short." "Has she perhaps a nice figure?" "She is very stout." "Has she nice feet?" "They are as broad as the feet of a goose." "Has she by any chance a nice name?" asked the perplexed Rabbi. "Her name is Lachluchith" (which means a mixture), was the unfortunate husband's answer. "Then," said the Rabbi, "such a cacophonous name is most suitable for a woman with such a mixture of defects. She has therefore one becoming feature, and you cannot separate from her."[3]

As regards complexion, blonde was the ideal, as also was good height,[4] well-developed bosom,[5] smooth hairless

[1] Nedarim 66*b*.
[2] Megillah 13*a*.
[3] Nedarim 66*b* and Rashi, *ad loc.*
[4] Nedarim ix. 10.
[5] Canticles R. iv. 12. See also Rashi to Taanith 24*b* and Nidah 20*b*, where the name of Shebur Malka's mother (Iphra Hurmiz) is explained as meaning a woman with beautiful breasts.

skin (and hence depilatory means were employed),[1] and sweet voice.[2] In the Arabian Nights story, *The Weaver who became a Leech*, the quack recognized a patient as a Jewess by her rosy cheeks, blue eyes, and tall stature.

Beauty was so much appreciated in women that, when R. Simeon b. Gamliel saw an exceptionally beautiful woman from the top of a house, he exclaimed, "How great are Thy actions, O Lord!" (Ps. civ.); and it is told of R. Akiba that when he saw the beautiful wife of the Roman general Turnus Rufus, he spat out, smiled, and wept. He spat because she came from a putrefying drop; he smiled because he foresaw that she would one day embrace the Jewish faith and become his wife; and he wept that such a handsome creature would one day have to be buried in the ground.[3]

There is abundant evidence to show that the Palestinians and Babylonians appreciated beauty in women from two different standpoints. The former admired it in the purely artistic or æsthetic sense, whilst the latter regarded it more from a sensual point of view.[4]

To such an extent was the sense of beauty developed in them that, when R. Simeon b. Eliezer saw an ugly man, he insulted him.[5] (See also p. 346.) The pretty girls used to sing in the parks, "Pay attention to beauty, for women are meant to be an ornament."[6] Before a bride they used to sing in Palestine, "Neither painted nor powdered, and yet beautiful."[7]

There were four extraordinarily beautiful women. They were Sarah, Rahab, Abigail, and Esther. Esther

[1] Sabbath 80*b*, Pessachim 43*a*, and other places.
[2] Nida 36*b*. [3] Aboda Zarah 20*a*.
[4] See Herschberg's article in *He'Atid*, vol. iv., pp. 6-14.
[5] Taanith 20*a*. [6] *Ibid.*, 31*a*. [7] Kethuboth 17*a*.

was like the myrtle tree, neither tall nor short, but medium sized. According to those who believe that she was also as green as a myrtle, she is not to be included, and Vashti is to take her place.[1] Compared with Sarah, every one was like an ape.[2] When Sarah was in a river, she appeared to Abraham like the sun shining in all his glory.[3]

According to an *agada* (a legend), R. Mana complained before R. Itzchak b. Eliashib that his wife Hannah was not to his liking because she was plain-looking, and the Rabbi prayed and she became good-looking.[4]

Factors which influence the Subsequent Career of the Child.[5]

1. **Heredity.**—Thus, the father endows the child with beauty and power[6] (see, further, Chapter II.).

2. **Geographical Influences.**—There are some places where people grow up strong, others where they grow up weak, others where they are nice, and others, again, where they are ugly.[7] "The atmosphere of Palestine," says the Talmud, "makes its inhabitants wise."[8] (See p. 5.)

The Midrash[9] mentions a certain village *K'phar dichraya* (*i.e.*, "boy village") where women gave birth to boys only, so that whoever wanted a male child moved into it, and any resident who wanted a female child moved out of it.

[1] Megillah 13*b* and 15*a*. [2] Baba Bathra 58*a*.
[3] Tanchuma Vayera. [4] Taanith 23*b*.
[5] See A. S. Herschberg in *He'Atid*, *op. cit.*, vol. v., Berlin, 1912, pp. 1-52. [6] Edyoth ii. 9.
[7] Num. R. ii. [8] Baba Bathra 158*b*.
[9] Lamentations R. ii. 4; *cf.* also Gittin 57*a*.

3. **Astral Influences**—*e.g.*, one born under Jupiter will be righteous and benevolent[1] (see, further, p. 164 *et seq.*).

4. **Circumstances in Connection with the Begetting of the Child.**—"A woman," says the Talmud, "who during sexual congress thinks of some other man is like a canvas upon which an artist has painted the picture of a king. When he was about to paint the face, the king died, and another was declared ruler. The artist was then in a quandary: should he complete his picture to represent the dead or the new monarch? So it is in her case. God had already created the embryo in the form of its father, and when she thought of the other man the colours became mixed."[2] For reasons of that nature marriage was discouraged between a divorced man and a divorcée, for in such a union "there are four different thoughts on the marriage-bed."[3] This may be an allusion to the phenomenon of *telegony* (which is still believed by some biologists), according to which a female who had been in the past impregnated by a particular male may, when impregnated long afterwards by another male, give birth to an offspring resembling the first male (see further p. 40).

Children begotten during the day will be red.[4] Those begotten by candlelight will be epileptic.[5] It is said that a woman was once asked why her children were so beautiful, and she answered because her husband was exceedingly modest in his relations with her, which he did not carry out either at the beginning of the night or in the early morning, but in the middle of the night.[6]

Coitus after a debilitating operation like venesection

[1] Sabbath 156*a*. [2] Jer. Taanith, Lev. R. xxiii.
[3] Pessachim 112*a*; compare Goethe, "Wahlverwandtschaft," part i., ch. 2. [4] Berachoth 59*b*.
[5] Pessachim 112*b* and Kallah R. i. [6] Nedarim 20*b*.

will give rise to a wasting child, if the operation was performed on the father only; if both father and mother had venesection done immediately before, the child will be scrofulous (*baal rathon*—*i.e.*, afflicted with a chronic catarrh of the mucous membranes).[1]

Intercourse during a period of impurity of the mother will give rise to skin disease in the child.[2] According to others, such a child will be ill-mannered. The Talmud narrates a story about two boys who passed an old man. One of the lads took off his hat (which in those times was considered a sign of disrespect); the other had his head covered. From this disrespectful behaviour on the part of the first boy one Rabbi inferred that he was illegitimate, and another that he was begotten during a period of impurity of the mother, whilst R. Akiba said that he was both. On inquiring it was found that R. Akiba's theory was right.[3] Coitus in unnatural positions is dangerous both for parents and child,[4] and, according to Maimonides, marital relations during domestic estrangement have a bad effect on the character of the offspring.[5]

5. **Feeding of Mother, and Other External Influences, during Pregnancy and Lactation.**—See p. 113 *et seq.*

6. **Ethnological Factors**—*e.g.*, Babylonians have round heads because their midwives are not experienced enough; Tarmodeans have oval eyes because they live in a sandy climate; and Africans have broad feet because they live in marshy lands.[6] A camel has a short tail because if it were long it would catch among the thorns which are found on the fields whereon it grazes.

[1] Kethuboth 77*b* and Nidah 17*a*.
[2] Kallah R. i., Lev. R xv. 5 and Yalkut, Ecclesiastes, 971.
[3] Kallah ii.
[4] Gittin 70*a*.
[5] Issuré Biah. xxi. 12.
[6] Sabbath 31*a*. See p. 336 below.

An ox has a long tail that it may drive away the fleas which molest it in the pools where it grazes.[1]

7. **Effect of Dreams on Offspring.**—The ancient Jews, like all ancient races, had a strong belief in dreams. Although R. Meir said that dreams signify neither good nor evil[2]—for, as was said in the name of Rav, dreams are due to indigestion, and hence fasting will destroy dreams[3]—and Ben Sirah said that only fools attach any importance to dreams,[4] yet R. Chisda said that a dream that has not been interpreted is like a letter that has not been read.[5] An anonymous Rabbi said that, if one sees a vine-tree in his dream, his wife will not abort; he who sees in his dream a cock can hope to have male children.[6]

Relative Values of Boys and Girls.

A male child is considered of much greater importance than a female child. Rabbi said: "The world cannot exist without men and women, yet happy is he whose children are males, and woe to him whose children are females."[7] Another saying is: "A boy is born to the world; he brings with him a loaf of bread in his hand, but a girl brings nothing."[8] R. Chisda, however, said that if the first child is a daughter it is a good sign for the children that will follow, because the evil eye is not evoked.[9] The Midrash[10] infers it from Gen. vi. 1: "And it came to pass, when men began to multiply on the face of the earth, and *daughters* were born unto

[1] Sabbath 77*b*.
[2] Gittin 52*a*.
[3] Sabbath 11*a*.
[4] Sirah xxxi. 1.
[5] Berachoth 55*b*.
[6] Berachoth 57*a*.
[7] Pessachin 65*a*, Kiddushin 82*b*, and Baba Bathra 16*b*.
[8] Nidah 31*b*.
[9] Baba Bathra 141*a*.
[10] Gen. R. xxvi.

them." The reason that a boy is considered so highly is that at the parents' death he recites in synagogue a prayer (*kaddish*) for their souls three times a day for eleven months. A boy is therefore called occasionally a *kaddish*, after the prayer which he has to recite. If somebody dies childless, it is the custom to hire a stranger to recite the *kaddish*.

The Talmud tells a fable about a Rabbi who met a ghost carrying a heavy load of wood. When questioned, the ghost replied that he was sentenced to collect wood which was used for burning him every day as a punishment for a serious sin which he committed in his lifetime. "How long is your punishment going to last?" asked the Rabbi, and the ghost answered: "When I came here my wife was pregnant, and I know she gave birth to a boy; as soon as my son is able to say, 'Blessed be the Lord!' my punishment in hell will cease, and I shall be transferred to paradise." The Rabbi sought out the boy, taught him to repeat that blessing, and on the selfsame night the father appeared to the Rabbi to thank him for having been the means of procuring for him rest of body and of mind.[1] The Talmud says: "Whoever leaves a son after him studying the Torah is considered as if he never died."[2] "A daughter," says the Talmud,[3] quoting Ben Sirah, "is a doubtful boon to her father, and a constant source of worry. When she is very young, one has to fear lest she be seduced; when she becomes of age, lest she does not get married; and when married, lest she has no children."

It is said that when the daughter of R. Gamliel was married, she asked her father to give her his blessing,

[1] Kallah ii. [2] Baba Bathra 116*a*. [3] See Sanhedrin 100*b*.

and he said: "May you never return here." When she gave birth to a son, she again asked him to bless her, and he said: "May you never cease to say, 'Woe is me.'" The bewildered daughter then asked him why he cursed her on each occasion on which she asked him to bless her, and he replied that both times he really prayed for her. "When you got married, I prayed that you might be so happy as never to return to my house; and now that your child is born, I hope that he may live, so that you may be constantly worrying about him, saying, 'Woe is me! my son has not eaten or drunk or gone to the house of worship.'"[1]

It is also narrated of two great Rabbis who, on being requested by the son of R. Simeon ben Yochai to bless him, delivered themselves as follows: "May you sow and not reap; may you bring in but not bring out." The youth protested before his father, and said: "They need not have blessed me, but they also should not have cursed me." But his father explained that their words were really blessings: "'May you sow and not reap' means: may you have children, but not lose them."[2]

[1] Gen. R. xxvi. 4.

[2] Moed Katan 9*a* and *b*. Amongst the sect known as Chasidim (*i.e.*, an ultra orthodox minority who adopt the Sephardic ritual in prayer and whose rabbi is believed by them to be endowed with special power to work miracles), it is even now the custom for the rabbi to give a blessing disguised in the form of a curse. A notable example is R. Aaron of Karlin, who lived in the middle of the last century. (See Solomon Feinerman, "On the Origin of the Chasidic Anecdotes," *Hashiloah*, xxi., 1909, p. 437.)

CHAPTER II

HEREDITY AND EUGENICS

"The sheep will follow one another.
A daughter acts as acts her mother"
(Kethuboth 63*a*).[1]

A. Heredity.

The Inheritance of Physical and Mental Qualities.—Although the scientific study of heredity—*i.e.*, the genetic relation between successive generations—is altogether a modern one, yet the question of the resemblances and differences between children and their parents is a subject which has been in all ages one on which the great minds of the world have deeply pondered. The Biblical views of the influences which mould man and his destiny were that it was due to the immediate action of the Creator's will. The sins of the father were visited even to the third and fourth generation,[2] and Paul asks the question, "Hath not the potter power over the clay, of the same lump to make one vessel unto honour, and another unto dishonour?"[3] The Rabbis of the Talmud recognized, however, that the theory of the Divine direct causal immanence in man's lot is not altogether tenable. "Marry the daughter of a man of character," says a Talmudical proverb, "for as the tree so is the fruit."[4]

[1] See I. Myers, "Gems from the Talmud," p. 31. [2] Exod. xx. 5.

[3] Rom. ix. 21; compare also the Piyut for the Evening Service of the Day of Atonement: "Like clay in the hand of the potter."

[4] Pessachim 49*a* and *b*.

It is true that, according to the Talmud, marriages are made in heaven, and "forty days before a child is born its mate is decided upon,"[1] yet in choosing a wife, says the Talmud in another place, one should see that there is no epilepsy or other hereditary taint in her family;[2] for, as the Shulchan Aruch continues, one must beware lest similar illnesses occur in the offspring.[3] The inheritance of mechanical dexterity is hinted in Gen. iv. 20-22 and Judg. xix. 22 (A.V.).

It is advised that a man should marry into a good family,[4] for "a girl with a good genealogical tree, even if she be poor or an orphan, is worthy to become the wife of a king."[5] "Who is rich?" asks the Talmud elsewhere. "He whose wife's actions are comely," is the answer.[6]

It is recommended that "one should sell all one possesses in order to marry the daughter of a learned man; for the merits of the father endow the child with beauty, power, riches, wisdom, and old age."[7] The apple does not fall far from the tree; the daughter of a learned man will have clever children, that of an ignoramus will have stupid children. If one cannot find the daughter of a learned man, one should look for the daughter of a prominent communal worker; and if that is impossible, the daughter of a teacher of children. But on no account should one marry the daughter of an ignoramus, for that is an abomination, and it is not permissible to partake of the wedding banquet of such a union.[8]

[1] Sanhedrin 22*a* and Moed Katan 18*b*.
[2] Yebamoth 64*b*.
[3] Eben Haëzer ii.; see further Deut. xxviii. 59, 60, and 2 Kings v. 27.
[4] Baba Bathra 109*b*.
[5] Num. R. i. 5.
[6] Sabbath 25*b*.
[7] Pessachim 49*a* and *b*.
[8] *Ibid.*, *b*.

R. Berachia said[1] that "if one sees that knowledge dies out in his offspring, one should marry his son to the daughter of a learned man." This is based on Job xiv. 7-9: "For there is hope of a tree, if it be cut down, that it will sprout again. . . . Though the root thereof wax old in the earth . . . yet through the scent of water it will bud, and bring forth boughs like a plant."

Again, R. Parnach said[2] in the name of R. Jochanan that everyone who is himself a learned man, and his first and second generations are learned, may be sure that knowledge will never die out from among his descendants, because "the Torah will always return to its own residence." On the other hand, the Talmud asks a question, "Why is it not the rule that learned men have learned children?" and R. Joseph replies: "That it should not be said that the Torah is an heirloom to them." R. Shisha the son of Idi says: "In order that they should not be proud"; and Mar Zutra says: "*Because* they are proud" (therefore they are punished).[3]

For a learned man to marry the daughter of an ignoramus and *vice versa* is like planting a vine-tree among thorns.[4] The statement in Zech. iii. 3, that "Joshua was clothed with filthy garments," is interpreted by the Talmud to mean "that he did not prevent the marriage of his sons with unsuitable wives"—*i.e.*, wives not fit for priestly families.[5] "If," says Euripides (Fr. 9 [Meleanger]), "one were to yoke good with bad, no good offspring would be born; but if both parents are good, they will bear noble children."[6]

[1] Pessachim 49*a* and *b*. [2] Baba Metzir, 85*a*.
[3] Nedarim 81*a*. [4] Pessachim 49*b*. [5] Sanhedrin 93*a*.
[6] Quoted by Allen G. Roper, "Ancient Eugenics," Oxford, 1913, p. 36.

Elijah kisses and God loves a man that marries a suitable wife; but he who marries an unsuitable wife is hated by God, and Elijah is angry with him, saying, "Woe to him who wastes his seed, who degrades his family."[1] A curious custom prevailed in the time of the Talmud in cases of unworthy marriages, the offender having been publicly ostracized. "If a member of a family married a wife that was unworthy of him, the other members of the family used to smash a barrelful of fruit in the middle of the street, and exclaim: 'Listen, O ye children of Israel: Our brother so-and-so has married an unworthy wife, and we fear lest his offspring mingle with ours. Come ye, therefore, and take an example for generations to come, that his offspring may never mix with ours.'"[2]

The story is told that a son of Rabbi was about to be married to a daughter of R. Chiya. When the marriage settlement was being prepared, the bride died. It was suggested that there must have been something wrong with the match, and they therefore started to investigate the respective pedigrees of the bride and bridegroom, when they discovered that Rabbi was descended from Abital, the wife of King David; whilst R. Chiya was descended from Shimei, the brother of David, and was therefore not of royal descent.[3]

It was enjoined upon a man, who chose a wife, to inquire into the character of her brothers, for the character of the children is like that of their maternal uncles.[4] This is inferred from Exod. vi. 23, where it is not considered sufficient to say that Aaron married the daughter of Aminadab, but it is also emphasized

[1] Kiddushin 70*a* and *b*, and Derech Eretz R. i. 3.
[2] Kethuboth 28*b*. [3] *Ibid.* 62*b*. [4] Baba Bathra 110*a*.

that she was a sister of Nachshon. The influence of heredity on mental and moral characters was also known to the Greek philosophers. Theognis[1] says that "No education can make the bad man good: no Æsculapius can cure the moral taint. Just as roses and hyacinths do not spring from squills, so from a slave woman no free child can be born. The fierceness of the Antigone of Sophocles was inherited from her father."

On the other hand, the Midrash Tanchuma says: "What environment can do, heredity cannot do."[2]

While there is no controversy at the present time as to the inheritance of physical character, there is a certain amount of disagreement as regards mental inheritance. Some even go as far as to deny its existence altogether,[3] but recent research gives fairly conclusive evidence that mental capacities are transmitted by heredity.[4]

As an example of the influence of heredity on offspring R. Eliezer mentions Moses, who married a daughter of Jethro and had a son Jonathan, and Aaron, who married a daughter of Aminadab and had a son Phineas.[5]

Descent, however, was known not to be everything, since many spiritual heroes of Jews sprang from proselyte stock or were themselves proselytes. Thus, David was a descendant of Ruth; Hiram, the artist called in by Solomon to assist in the building of the Temple, came on his father's side from a non-Jewish stock;[6] Shemaiah and Abtalion, the predecessors of Hillel the Elder,

[1] Theognis, 432, 471, and 537, quoted by Roper, *op. cit.*, p. 34.

[2] Tanchuma Vayetze 13.

[3] Archdall Reid, "Sociological Papers," vol. iii., pp. 92, 93.

[4] See Cyril Burt, "The Inheritance of Mental Characters," *Eugenics Review*, July, 1912, pp. 168-200; also Professor C. Spearman, "The Heredity of Abilities," *ibid.*, October, 1914, pp. 219-237.

[5] Baba Bathra 109*b*.

[6] 1 Kings vii. 14.

were, according to tradition, proselytes. Onkelos (the famous translator of the Bible into Aramaic), R. Akiba, and R. Meir, were all proselytes. On the other hand, Terah worshipped images, and Abraham his son was righteous; Hezekiah was righteous, whilst his father Ahaz was wicked.[1] Hence a famous Rabbi of the twelfth century, R. Judah (Chasid) ben Samuel, emphatically said that "the offspring of a Jew who married a Gentile wife, but who was a modest, kind-hearted, and charitable woman, must be preferred to the children of a Jewess by birth, who does not possess the same good qualities."[2] Sophocles[3] also calls attention to the fact that "sometimes a noble offspring does not spring from well-born parents, nor an evil child from useless parents."

Thomas Fuller in his "Scripture Observations," No. viii., says (with reference to the genealogy of Jesus as given in the first chapter of Matthew):

"Lord, I find the genealogy of my Saviour strangely checkered with four remarkable changes in four immediate generations:

"1. Roboam begat Abia; that is, a bad father begat a bad son.

"2. Abia begat Asa; that is, a bad father a good son.

"3. Asa begat Josaphat; that is, a good father a good son.

"4. Josaphat begat Joram; that is, a good father a bad son.[4]

"I see, Lord, from hence that my father's piety

[1] Num. R. xix. 33. See also S. Schechter, "Some Aspects of Rabbinic Theology," ch. xii., London, 1909.

[2] Sefer Chasidism 377, quoted by I. Abrahams in "Jewish Life in the Middle Ages," London, 1896, p. 207.

[3] Soph., "Tyro Fr." 583, quoted by Allen G. Roper, *op. cit.*, p. 33.

[4] See Matt. i. 7-8.

cannot be entailed; that is bad news for me. But I see also that actual impiety is not always hereditary; that is good news for my son."[1]

[See also Ezek. xviii. 5-20, where a most virtuous father may beget an utterly vicious son, and *vice versa*.]

Pinchas Elias[2] explains such a phenomenon as follows: The quality of the future offspring depends on the thoughts of the father *tempore coeundi*. If the object of the intercourse was to satisfy animal passion only, then the child will not be a good one; if, however, its object was propagation of species, then the resulting offspring will be good (compare p. 3). Hence he reasons as follows: An average individual may have good or bad children according as the thoughts were proper or improper. On the other hand, wicked or immoral people, who probably engage in promiscuous intercourse for the purpose of satisfying their animal passion, but make use of their wives for the sole object of establishing a family, may therefore beget very worthy children.

For personal reasons, however (so that the wife may look up to her husband), one should go down a step to choose a wife.[3] The following anecdote is of interest in this connection: It is narrated of King Solomon, who was such a clever linguist that he could even understand the language of birds, that he once overheard a bird addressing its mate as follows: "Do you see King

[1] *Cf.* Berachoth 7*a*.

[2] Sefer Ha'Berith, Bobrin, 1804, p. 73*b*, col. 2.

[3] Yebamoth 63*a*. The Rev. I. Myers translates the Talmudic saying in rhyme as follows:

"Step down in life
And take a wife;
One step ascend
And choose a friend."

Gems from the Talmud, p. 43.

Solomon over there? With one stroke of my wings I can crush every bone in his body, and with another stroke I can overturn his palace from turret to foundation-stone." The mate regarded her valorous husband with proud mien, but Solomon summoned the boastful bird and reprimanded him for his absurd braggadocio. The bird, winking at the King, begged his Majesty's pardon. "Of course," said he, "I was only fooling my wife, who believes everything I tell her." And the little bird flew away to his admiring mate.[1]

When a father wishes to dispose of his daughter's hand, he must be careful not to marry her to an ignoramus; for he who marries his daughter to an ignorant man is as if he throws her in front of a lion.[2]

If a worthy wife was not found by parents for their son in their own land, he went abroad for the purpose. "Rebekah said to Isaac, I am weary of my life because of the daughters of Heth: if Jacob take a wife of the daughters of Heth, such as these which are of the daughters of the land, what good shall my life do me?"[3] And Isaac said to Jacob, "Go to Padan-aram . . . and take thee a wife from thence of the daughters of Laban thy mother's brother."[4]

"You may make haste," says the Talmud, "to buy property, but you must pause and consider before taking a wife,"[5] the prototype of the modern proverb, "Marry in haste, and repent at leisure." For the sake of the

[1] See Abram Isaacs, "Stories from the Rabbis," London, 1893, p. 115.

[2] Pessachim 49*b*. [3] Gen. xxvii. 46. [4] Gen. xxviii. 2.

[5] Yebamoth 63*a*.

"To buy some land, run a mile;
To take a wife, pause a while."
I. Myers, *loc. cit.*, p. 85.

future children, each marriage should be one of true and real affection; for "he who marries for money shall have worthless children,"[1] and, according to Maimonides, the begetting of children during domestic estrangement has a bad effect on the character of the offspring.[2] He further says: "A psychical harmony between husband and wife is the foundation of good progeny."[3]

R. Akiba is responsible for the saying that, if a man finds another woman better-looking than his wife, he should divorce her,[4] since it is a proof that he does not love her any more.[5] If a wife refuses to cohabit with her husband because she dislikes him, then he is compelled to divorce her,[6] because, as Maimonides comments, "the wife is not a prisoner of war who must give herself to one she despises."[7] In any case, no connection is to be had without the wife's consent.[8] Mohammed's teaching is the exact opposite. "Your wife," he says in the Koran, "is your property, to do with her what you please."

The Talmud discourages the marriage of the physically unfit, for it says that "children begotten during a state of debility are born weakly."[9] On the other hand, Rabbi Jochanan said that "Rav had no need to spend money on meat, because he came from a family of strong men."[10]

Influence of Alcohol on Offspring.—That alcoholism in the parents was believed to have a deleterious effect on the offspring is seen from the following: It is said that R. Bibi anointed and massaged every limb of his

[1] Kiddushin 70*a*.
[2] Issuré Biah xxi. 12.
[3] *Ibid.*
[4] Gittin 90*a*.
[5] See A. Hyman, "Toldoth Tannaim Ve Amoraim," London, 1910, vol. iii., p. 1001.
[6] Yebamoth 63*b*.
[7] Hilchoch Ishuth xiv. 8.
[8] Erubin 100*b*.
[9] Gittin 70*a*.
[10] Chulin 84*a*.

daughter, and he received for her 400 zuzim (about £12) from a suitor. Upon this R. Nachman commented that R. Bibi in virtue of his drinking palm wine required that his daughter should adopt artificial means for beautifying herself, but our daughters do not require it, because we are abstainers.[1] Again, the Talmud says that "children begotten during a state of inebriety are mentally deficient."[2]

Marked Differences in Age between the contracting parties were distinctly discouraged. R. Eliezer said that he who marries his young daughter to an old man encourages her to live an immoral life.[3] A woman, says a proverb, prefers a poor young man to a wealthy old man.[4] Hesiod, Sappho, and Theognis, were also aware of the evils of disparity of age.[5] Similarity of stature between man and woman was also regarded with disfavour. Thus, "two very tall or very short persons should not marry, lest their children be abnormally tall or short";[6] and, indeed, it has been recently shown that the coefficient of correlation for height between parents and children is 0·5.[7]

[The *correlation coefficient* is a figure indicating the degree of correspondence between two series of measurements under consideration. It is so constructed that, when the two series are strictly proportional to each other, it takes its maximum value of +1.

As the correspondence between the two series becomes

[1] Sabbath 80*b*; also Moed Katon 9*b*.
[2] Kallah R. i.; also Nedarim 20*b*.
[3] Sanhedrin 76*a* and *b*; Yebamoth 44*a*.
[4] Yalkut, Ruth, 610.
[5] See Roper, *op. cit.*, pp. 33 and 35.
[6] Bechoroth 45*b*.
[7] See Cyril Burt, *loc. cit.*, p. 169.

less and less close, the coefficient continually diminishes, and on their being wholly independent of each other it goes down to 0.

When the measurements in the one series even tend in the reverse direction to that of the other series, the coefficient takes a minus value, with an extreme limit of – 1.

Thus, supposing every son were of the same height as his father, the coefficient of correlation for height between father and son would be +1·00. If a son resembled his father in height no more than any other person taken at random, the coefficient of correlation would be 0. If every son were as short as his father was tall, the coefficient would be – 1·00.

On actually measuring the stature of some 4,886 pairs of sons and fathers, the degree of resemblance between them has been calculated to be 0·50. This means that on the average the sons deviate from the mean height of the population by about half as much as the fathers.]

Complexion was another character which was regarded as hereditary. "A man and a woman of very light complexion should not marry, lest the offspring suffer from albinism (a condition characterized by absence of pigment in all parts of the body). Also two people of very dark complexion should not marry, lest their children be abnormally dark."[1] It is now an established fact that two albino parents have only albino children.[2] "Two imbeciles," says the Talmud, "must not marry,"[3] and modern statistical inquiries have proved such marriages to result only in imbecile offspring.[4]

[1] Bechoroth 45*b*.

[2] See C. B. Davenport, "Eugenics," New York, 1910, p. 13.

[3] Yebamoth 112*b*.

[4] Davenport, *loc. cit.*, p. 14.

Deaf-mutism.—As regards deaf-mutism, it would seem that the Rabbis made no distinction between congenital deafness and that which is adventitious, having stated in general terms that two deaf-mutes may marry.[1]

Modern statistics have given the following results: In 3,078 marriages, with 6,782 children, there were—

(1) Where both parents were congenitally or adventitiously deaf: 8·458 per cent. of deaf children.

(2) Where both parents were congenitally deaf: 25·931 per cent. of deaf children.

(3) Where both parents were adventitiously deaf: 2·326 per cent. of deaf children.

(4) Where one parent was congenitally deaf, and the other hearing: 11·932 per cent. of deaf children.

(5) Where one parent was adventitiously deaf, and the other hearing: 2·244 per cent. of deaf children.[2]

These figures therefore show that, whilst the Rabbis were right in supposing that adventitious deafness was not inherited, seeing that in Class (3) we have only a small percentage of deaf children (2·3 per cent.), not more than would be expected in an average population, they were wrong in not making any distinction between this form of deafness and the congenital variety which is distinctly hereditary.[3] (See Chapter XXIV., p. 392.)

Beauty in a woman was a highly commendable attribute. "Happy is the man who has a beautiful wife: the length of his days are doubled."[4] Again, "A woman with beautiful eyes," said a Rabbi, "needs no further

[1] Yebamoth 112*b*.

[2] E. A. Fay, quoted by Arthur Thomson in his article "Heredity" in "Encyclopædia and Dictionary of Medicine," Edinburgh, 1907, vol. iv., p. 182.

[3] See also Davenport, *op. cit.*

[4] Yebamoth 63*b*.

recommendation,"[1] although Maimonides, on purely hygienic grounds, says that one should not marry too beautiful a woman, since there is the risk of temptation to excessive sexual indulgence.[2]

Prepossessing girls used to have many suitors, who were prepared to pay much money to their fathers. Indeed, a case is recorded of a girl who was exceedingly pretty, and had so many admirers that, in order to free herself from their attentions, she was compelled to deceive them by saying that she was already married.[3] At the same time, as has been truly said by Solomon, beauty is not everything, and character is better than looks; for "grace is deceitful, beauty is vain; but a woman that feareth the Lord, she shall be praised."[4] The Midrash tells a very pretty story about R. Joshua ben Chananya, who met a young girl whom he asked for a drink of water. She replied that she would give drink both to him and to his donkey. When he finished drinking, he said to her, "My child, thou hast imitated the good example of Rebekah."[5] She gave him a playful smile, and said, "Yes, but thou hast not imitated the good deed of Eliezer" (who gave Rebekah earrings and a bracelet).[6] "Kind maiden," said Joshua ben Chananya, "thou possessest more beautiful ornaments than the most faithful servant can give thee: wit, wisdom, and kindness."[7]

It used to be the custom in Jerusalem for the daughters of Israel to go out in borrowed clothes (so as not to put the poorer girls to shame), and dance in the parks on the

[1] Taanith 24*a*.
[2] Sefer Refuoth xvi.
[3] Kethuboth 22*a*. See also story of R. Bibi on p. 28.
[4] Prov. xxxi. 30.
[5] See Gen. xxiv. 46.
[6] See Gen. xxiv. 47.
[7] Echa R. i. 9.

15th of Ab (about the middle of summer), and on the Day of Atonement, and marriageable bachelors came to look on. The beautiful girls used to sing, "Young men pay regard to personal beauty, which is the highest attribute of a woman"; the girls of good family used to sing:

"O young man, lift up your eyes
And look before you choose.
Look not for beauty,
But seek for good breeding.
False is grace, and beauty is vain;
A God-fearing woman is alone worthy of praise."[1]

In the Middle Ages the fairs were substituted for the vineyards, and many marriages were arranged at the fairs held at Lemberg and Lublin.[2] Celibacy was not allowed (compare the recent tax on bachelors in France), except in the case of students;[3] for how can one study when one has a yoke on one's back ?[4] Early marriages were enjoined, the marriage age of boys being between thirteen and twenty—eighteen being the age stated in the Mishna (Abb. v. 21), although the Midrash says that generally thirty or forty is the age at which men marry[5] and that of girls the approach of puberty: *i.e.*, twelve years and one day. (For child marriages in the Middle Ages see p. 55, also I. Abrahams, *loc. cit.*, p. 167 *et seq.*) Such early marriages not only obviate impure living, but increase

[1] Taanith 26*b* and 31*a*. Compare Judg. xxi. 21; see also article "Folk-Songs" in "Jewish Encyclopædia," vol. v., p. 426.

[2] See I. Abrahams, *loc. cit.*, pp. 172, 173.

[3] See case of Ben Azai, Yebamoth 63*b*.

[4] Kiddushin 29*b*.

[5] Cant. R. vii. 17 quoted by Suvalsky in "Chayei Hayehudi al pee ha Talmud," Warsaw, 1893, p. 100.

the child-bearing age and opportunities as well as *expectation of life.* The offspring of mothers who married young are also stronger than the average.[1] R. Chisda said: "Why am I better than my friends? Because I married at the age of sixteen, and had I married at the age of fourteen I would have been able to defy Satan."[2] Greek opinion was against early marriages. Pythagoras discussed the evil effects of such marriages, and Solon legislated upon them.[3]

Because marriages were arranged when the parties were so young, it was the custom in olden times—and it still is so in Eastern Europe—for the father-in-law to take his son-in-law into his house, where he had free board and residence for a number of years in addition to the monetary gift which his wife brought him as a dowry. It is also the accepted custom among the same Jews to follow the advice of the Talmud, that a marriage of ten years' duration in which there is no issue should be dissolved,[4] unless the wife had an abortion, in which case the ten years are counted from that event. The same rule is laid down by Plato in his Laws.[5] Rab said that a time limit of ten years applied only to the early times, when people were long-lived, but now, when people do not live so long, one should not wait so long.[6] A humorous anecdote is based on these customs. It is said that a son-in-law was promised ten years' free board and residence. After the lapse of a fortnight of

[1] Robert J. Ewart, "The Influence of Parental Age on Offspring," *Eugenics Review*, October, 1911, pp. 201-232. See also Grünwald, "Hygiene der Juden," Dresden, 1911, p. 93, and F. Galton, "Essays in Eugenics," London, 1909, p. 27.

[2] Kiddushin 29 and 30.

[3] See Roper, *op. cit.*, p. 33.

[4] Yebam. 64*a*, Keth. 77*a*.

[5] Quoted by Roper, *op. cit.*, p. 55.

[6] Yebam. 64*b*.

long summer days, the father-in-law said to the son-in-law that, as each summer day was almost as long as a year, he considered that he had already given to his son-in-law more than the stipulated free maintenance. "You are right," said the son-in-law; "but, as I have already lived with my wife longer than ten years without any issue, I am also entitled to divorce her!"

As a contrast to the above, the following pretty romance from the Midrash is well worth quoting:

A couple who lived for ten years without offspring went to R. Simeon b. Yochai to be divorced. The Rabbi listened to their tale of woe, and advised the couple to go home, make a feast, and entertain their friends, before coming up to have the divorce ratified, in order that people should not think that their separation was due to some disgraceful act on the part of one or the other. Acting upon the Rabbi's advice, they went home and made merry. At length the husband said to the wife that, as they had lived happily together for so many years, she might take away with her anything she liked best in the house. "Well and good, my dear," said the wife. The evening passed pleasantly, the winecup went round freely, and then the guests as well as the master fell soundly asleep. The wife then summoned her confidential maid, and had her husband carried away to the house of her father. When he awoke next morning and inquired where he was, the gentle lady said: "Compose thyself, my beloved; I have only done as thou allowedst me. Dost thou remember the permission thou gavest me last night in the presence of our guests, to take away from our house whatever was most dear to me? There was nothing more precious to me than

thyself, so I have brought thee with me." The two went back to R. Simeon and told him that they had changed their mind. Whereupon he prayed to the Lord, who made the wife as fruitful as the vine, and honoured her husband with children and children's children.[1]

A similar story is recorded in the early history of Germany. In the year 1141, during the civil war in Germany, the Emperor Conrad besieged the Guelph Count of Bavaria in the castle of Weinsberg. After the surrender of the garrison the emperor vowed to burn the place and kill all the men, but allowed all the women to leave the place, and granted the request of the Countess of Bavaria to permit the women to take as much of their valuables as each of them could manage to carry. Next morning, to the amazement of the emperor, the women filed out one by one, "every married woman carrying her husband with her young ones on her back." This sight so moved the emperor that he spared the place and the lives of the men.[2]

Sterility.

Sterility was recognized as due either to the husband or the wife.[3]

Causes of Sterility in a Woman.—A woman who never menstruated was believed to be comparatively sterile.[4] Advancing years were also known to be a cause of sterility, and were therefore considered unfavourably

[1] Canticles R.

[2] See Paul Isaac Hershon, "A Talmudic Miscellany," London, 1880, p. 136.

[3] Deut. vii. 14.

[4] Jer. Kethub. i. 1 and Nidah 64*b*

from the point of view of marriage. R. Chisda said that "when a young girl before the age of twenty gets married, she may remain fertile up to the age of sixty; if she gets married at the age of twenty, she may remain fertile up to the age of forty; but when a woman marries at the age of forty, she may be sure that she will never have any children."[1] Similarly, a woman who has been a widow for ten years, and who had made up her mind not to remarry, will not, if she does marry again, have any more children. Rava married the daughter of R. Chisda, who had been a widow for ten years, and when she bore him a child he said to her: "The Rabbis have their suspicions about you." But she replied: "I had always set my heart upon you."[2] On the other hand, extreme youth was also known to be a bar to conception. "A woman cannot conceive before the age of eleven years and one day; and between eleven and twelve years conception is possible, but labour is sure to result in the death of both herself and her child."[3]

Although marriage was not forbidden to a girl before the age of twelve, still, it was recommended that she should use mechanical means to prevent conception; such means were also allowed for the sake of the unborn child to a pregnant woman and to a woman who was suckling (see p. 181), but no method of preventing conception was allowed for any other purpose.[4]

Treatment of Sterility.—The Talmud suggests a very ingenious way to cure sterility in a woman. Thus, R. Eliezer said that Hannah pleaded before the Almighty, saying: "Lord of the Universe, if Thou dost not answer

[1] Baba Bathra 119*a*.
[2] Yebam. 34*b*.
[3] *Ibid.*, 12*b*.
[4] *Ibid.*

my prayers for a child, I shall arouse my husband's suspicion of infidelity by closeting myself in with a strange man. He would then take me to the High Priest, and make me go through the ordeal of 'bitter waters';[1] and surely Thou wilt not allow the words of Thy Torah to remain false, for it is written that 'if the woman be not defiled, but be clean, then she shall be free and conceive seed.'"[2]

The following are some of the remedies for the treatment of sterility in women:

(*a*) Mix the ashes of the burned skin of a fox with water, and drink it three times a day for three

(*b*) In Palestine barren women drink water in which has been cooked moss that has grown on the Temple walls.[4]

(*c*) Prayer.[5]

Thus, according to the Talmud, many of the matriarchs were childless because God is desirous of the prayers of the pious.[6]

Impotence.

Impotence was an absolute bar to marriage and a cause for divorce,[7] and the Rabbis described certain signs by means of which one could, in cases of doubt, ascertain the incapability of a man for procreation. These were—Absence of pubic hair at the age of twenty;

[1] Num. v. 28.
[2] Berachoth 31*b*, Sotah 26*a*.
[3] See article "Birth" (Jewish) in Hastings' "Encyclopædia of Religion and Ethics," vol. ii., p. 654; Edinburgh, 1909.
[4] See "Jewish Encyclopædia," article "Superstition," vol. ii., p. 600, col. 1.
[5] Gen. xxv. 21 and 1 Sam. i.
[6] Yebam. 64*a*.
[7] Nedarim 90*b*.

absence of hair on the face, so that one can suspect such a person from merely looking at his face; soft and flabby condition of his muscles; lack of force in act of micturition, thin effeminate voice, and certain properties of his urine (*e.g.*, absence of froth and absence of ammoniacal fermentation on standing); excessive fluidity of his semen (because it contains no spermatozoa); and absence of reaction in his skin after a bath even in winter.[1] Similar tests were described for a woman:[2] Non-development of breasts, absence of pubic hairs and of mons veneris, a rough masculine voice, as well as dyspareunia. The importance that the Rabbis attached to the skin reaction as a test is seen from the following quotation: "Rabba Bar Abuha said to his colleagues: 'Examine the skin reaction of Rabbi Nachman; if that is positive, I shall give him my daughter in marriage.'"[3]

Impotence was divided by the Rabbis into congenital (*saris chama*) and acquired (*saris adam*). The former was considered by some as amenable to treatment. Thus, the "doctors of Alexandria in Egypt" were reputed to be able to remedy it,[4] but another Rabbi denied its curability.

As a remedy for impotence (or, as the Talmud euphemistically puts it, "unfamiliarity with the ways of the world") the following is highly recommended by R. Jochanan from his own personal experience:[5] Take three measures of *kurtemi*, pound and boil them, and drink them with wine, which latter was in itself considered an aphrodisiac.

[1] Yebam. 80*b*. [2] *Ibid.* [3] *Ibid.*
[4] See R. Eliezer's statement, Yebamoth 80*a*.
[5] Gittin 70*a*.

Garlic[1] and fish[2] were also recommended. Poverty and starvation were known to be a cause of impotence. A case of medico-legal interest was brought before R. Jehuda, who, seeing that "their faces were black as a result of hunger," ordered them to be given a bath and good food and drink. This cured them of the impotence.[3]

Psychical impotence was recognized, and was treated by R. Huna by getting the husband and wife more used to each other by inviting them together to a meal.[4] *Dudaim*,[5] which has by some been identified with mandragora, is also mentioned in the Bible as an aphrodisiac.

If after marriage a woman complains that "heaven alone knows our secret" (*i.e.*, that the husband is impotent), then the husband is compelled to divorce her and pay her marriage settlement.[6]

In order to test the wife's statement, either the test described could be tried, or, according to those who, like Rava, held that polygamy was permissible, the husband was made to marry an additional wife in order to demonstrate his potence.[7] Another test possible was to let the woman sit over an open barrel of wine; thus, "On plaça successivement sur l'orifice d'un tonneau, rempli de vin, une servante marriée et une esclave vierge. Or, chez la première l'odeur du vin sortait par la bouche, tandis, que chez la seconde il n'y avait rien de pareil."[8] This test, which is based on faulty anatomical knowledge, is also mentioned by

[1] Baba Kama 82*a*.
[2] Berachoth 40*a*.
[3] Keth. 10*a*.
[4] Jer. Ned. xi. 12.
[5] Gen. xxx. 14.
[6] Nedarim xi. 12 (Rashi).
[7] Yebamoth 65*a*.
[8] Yebamoth 60*b*, Kethuboth 10*b*.

Greek writers,[1] although Soran considered such a test worthless.[2]

The Transmission of Acquired Characters.—The vexed question of modern biology—viz., Are acquired characters transmitted ?—also engaged the attention of the Rabbis. According to the Midrash, such characters are inherited, as is seen from the story told in Chapter XII., p. 184, according to which a shrewd youth rightly guessed from the shape of his master's legs that he was the illegitimate son of a stage dancer.[3] The Talmudic sages, however, definitely answered the question in the negative. "For," argued they, "if it were otherwise we should expect the children of blind or lame persons to be born with similar afflictions, which we know is not the case."[4] It may be remarked that this opinion, which is in direct opposition to the Lamarckian theory, is in agreement with the most modern views. Another "Jewish" argument in favour of the non-inheritance of acquired characters is the fact that, notwithstanding the constant practice of circumcision by the Jews for some 4,000 years, no case of *true* congenital absence of the prepuce has ever occurred amongst them.

Telegony, or the alleged influence of a previous husband upon the progeny produced by a second one from the same mother, is spoken of in the Zohar, where it is mentioned that during intercourse a certain "spirit" passes from the husband to the wife. This spirit, explains Pinchas Elias,[5] remains in the wife even after the death of the husband, and children that are afterwards born to her from another husband may resemble

[1] Hippocrates, v., ch. 59.
[2] De Nat. Mul.
[3] Echa R. i. and Yalkut Shimonei, 1001.
[4] Chulin 69*b*.
[5] Sefer Ha'Berith, 1804, i. 73*b*, col. 1.

the first husband if the "spirit" of the second husband is "weaker" than that of the first.

We have thus seen that the subject of Nature *versus* Nurture, which has recently assumed such an important place in biological inquiry, also engaged the attention of the Jewish Rabbis some 2,000 years ago, and that the conclusions arrived at by those sages, as seen from the sayings quoted in the previous pages, are essentially, though not to the same extent, the same as the opinions to which modern biologists are coming round—viz., that whilst environment has some effect in influencing the welfare of children, yet its influence is small when compared with that produced by Nature or heredity. Karl Pearson, for instance, has shown mathematically that, while the association of heredity and character is very considerable—represented by a correlation coefficient of 0·50—that of environment and character is extremely small, its coefficient of correlation being only about 0·03.[1]

Euripides[2] also discusses the relative influence of heredity and environment. "Is it not wonderful," he asks, "that poor soil, blessed with a favourable season from the gods, bears corn in abundance, whilst good soil, deprived of what it should have received, yields but a poor crop, yet with human kind the worthless is always base, the noble never anything but noble? Is it the parents who make the difference, or the modes of training?" (Hec. 592 *et seq.*). And the answer is, "Nature is greatest" (Fr. 12 [Phœnix]). No education can transform the bad child of evil stock (Fr. Incest. 38).

[1] K. Pearson, "Nature and Nurture," London, 1910.

[2] Quoted by Roper, "Ancient Eugenics," p. 36.

B. Eugenics.

Recognizing the relative importance between heredity and environment, the Rabbis formulated certain rules and principles of selective breeding, or, as Galton has named it, "eugenics," for the deliberate purpose of permanently raising the standard of the Jewish race. "Eugenics," says Sir Francis Galton,[1] "deals with what is more valuable than money or lands—namely, the *heritage* of a high character, capable brains, fine physique, and vigour . . . and deserves to be strictly enforced as a religious duty." And such was also the opinion of the Jewish sages in the time of the Talmud.

In arranging a marriage the following factors had to be considered:

(*a*) **Good Birth of the Contracting Parties.**—A girl with a good pedigree (a *bath abboth*—literally, a daughter of fathers), even if she be poor and an orphan, is worthy to become the wife of a King.[2] If a marriage was contracted on condition that the parties were of noble birth, and it was found afterwards not to be the case with either party, the marriage was null and void.[3] The Babylonian Jews, who prided themselves on their noble and pure descent, were particularly careful in this respect, and were loath to intermarry with Palestinians.[4] Even at the present time the Sephardim (*i.e.*, the Jews of the Spanish and Portuguese congregation, which forms only about 10 per cent. of the total Jewish population) unjustifiably pride themselves on their superior racial purity, and, as a rule, refuse to intermarry with the

[1] F. Galton, *op. cit.*
[2] Num. R. i. 5.
[3] Kiddushin ii. 3.
[4] *Ibid.*, 69*b*.

Ashkenazim (who form the remaining 90 per cent. of the Jews). (See p. 96.)

R. Jochanan said that if the daughter of a Cohenite marries one who is not a Cohen the union is not likely to turn out a good one. She will either be widowed or divorced or have no issue. There were some, however, who held the opposite opinion—viz., that the daughter of a Cohen brings prosperity to her husband and has learned children. Indeed, when R. Joshua, who had a Cohenite wife, became ill, he somewhat caustically and superciliously asked whether he (R. Joshua) was not good enough as a husband for a descendant of Aaron.[1]

(*b*) **Physical Health and Good Appearance of Partners.** —If some previously unknown physical defect was found in the wife after marriage, she was to be divorced without receiving her marriage settlement.[2] The following are mentioned among the 145 physical defects which disqualified a woman in such a case: Foul odour from the mouth, excessive perspiration, and unpleasant rough voice.[3] According to the opinion of some Rabbis, such is only the case when there was no possibility of discovering the defects before marriage. If, however, that were possible, she cannot be divorced. We have already seen that people with an hereditary taint in the family were discouraged from marrying (p. 21).

The story is told in the Talmud of a pretty girl who lost a tooth, and with it her lover as well. She was too poor to provide an artificial substitute, so Rabbi Ishmael furnished her with a gold tooth, which restored her beauty as well as her lover. R. Ishmael wept, and said:

[1] Pessachim 49*a*. [2] Kethuboth 72*b*.
[3] *Ibid.*, 75*a*.

"The daughters of Israel are handsome, but their poverty makes them unsightly."[1]

Physical strength and learning were looked for in the man. The Rabbis, however, treated the man much more leniently than the woman. Thus, "if the marriage was arranged on condition that the man was a scholar, it is not necessary that he should be as learned as Simon ben Azai or Simon ben Zoma, but it is sufficient if he knows a little even of the easiest portions of the Talmud."[2]

(*c*) **Financial Standing of the Man, but not of the Woman.**—On the contrary, in the case of woman, it is said that he who marries a woman for her money will have worthless children.[3] If a woman married a man on condition that he was rich the marriage was null and void if she found afterwards that he was poor.[4] Roper[5] quotes many passages from Euripides and other Greek philosophers denouncing mercenary marriages. "Nature," says Euripides (in Elec. 941), "endures; wealth is fleeting." Therefore, says he (Androm. 1279 *et seq.*), it is man's duty to marry the noble and avoid evil wedlock, even if that should bring him in a wealthy dower. In Theognis (v. 183) is found the following observation: "We seek well-bred rams and sheep and horses, and one wishes to breed from these. Yet a good man is willing to marry an evil wife, if she bring him wealth: nor does a woman refuse to marry an evil husband who is rich. For men reverence money, and the good marry the evil, and the evil the good. Wealth has confounded the race."

[1] Nedarim 66*a*. [2] Kiddushin 49*b*. [3] Kiddushin 70*a*.
[4] *Ibid.*, 49*b*. See further Herschberg's article in *He'Atid*, *loc. cit.*, vol. v., p. 84. [5] *Op. cit.*, pp. 32, 35, 36.

CHAPTER III

JEWISH GENETICS STUDIED BY MODERN METHODS

"The mule is sterile because it is a hybrid" (Bechoroth 7*b*).

A. **Consanguinity of Marriage.**—Consanguineous marriages among Jews have formed a very fertile field for discussion among biological statisticians. Both those who advocate such marriages as well as those who are against them point to the Jews as examples in support of their views. Thus, it has often been said, and as often denied, that idiocy, deaf-mutism, blindness, diabetes, etc., are more common amongst Jews on account of the greater frequency of cousin marriages among them.

The general impression of the deleterious effects of inbreeding has been formed since Darwin showed that continual inbreeding among plants and animals has a bad effect on their fertility and general vigour.[1] That cousin marriages are more common among Jews is a fact. About twenty-five years ago, Joseph Jacobs, using the ingenious method described by G. H. Darwin in the *Journal of the Statistical Society* for June, 1875, calculated *indirectly* the number of first cousin marriages among the upper classes of Jews as 7·5 per cent. of all

[1] Charles Darwin, "The Variation of Animals and Plants under Domestication," London, 1868, ii. 101, etc.

marriages, the number of similar marriages among Gentiles ranging between 1·5 per cent. for all inhabitants of London, and 4·5 per cent. for English aristocracy.[1] But recently *direct* statistics have become available. Thus, in Hungary such marriages are prohibited by law, but permission is usually given to those who apply for it. During 1901-1906, five times as many such dispensations (in proportion to their population) were granted to Jews as to Christians.[2] It is true that the majority of the Hungarian Christians are Catholics among whom such marriages are forbidden, but against that source of error is to be set the fact that Jews are town dwellers, among whom the marriage of near kin is much less frequent than amongst rural inhabitants.

It is not necessary for us to discuss the causes of the greater frequency of such marriages among them, but it is of interest to investigate the biological effects of such unions.

In the first instance, first cousin marriages have been credited with sterility (absolute or comparative). That this is not the case is proved by the fact that, whilst, according to various authorities, the proportion of sterile marriages generally varies between 11·7 per cent. (Simpson) and 20 per cent. (Oesterlen), with an average of 12·8 per cent.,[3] Jacobs found the proportion of sterile unions in cases of Jewish first cousin marriages to be as low as 5·4 per cent.[4] Moreover, investigating

[1] J. Jacobs, "Jewish Statistics," London, 1891, p. 3.

[2] *Zeitsch. für Demogr. und Statist. der Juden*, vol. iii., p. 46, 1907.

[3] See Alfred Henry Huth, "The Marriage of Near Kin," London, 1887, pp. 192, 193.

[4] Jacobs, *op. cit.*, p. 7.

the actual fecundity of such marriages, Jacobs found an average of 4·6 children to each Jewish first cousin marriage, whilst the average Jewish birth-rate per marriage is only 2·6. Hence first cousin marriages are half as fertile again as other Jewish marriages. Indeed, as Huth points out, this is what one would expect *a priori* to be the case, since cousins generally marry younger than do strangers, and it is well known that young marriages are the most prolific (because the period of fecundity is longer), provided the contracting parties are not too young.

The next accusation that has been brought against consanguineous marriages is that they are responsible for idiocy, imbecility, deaf-mutism, blindness, convulsions, etc., in the offspring. Now, taking 7·5 as the proportion of first cousin marriages among Jews, and the relative fecundity of ordinary and first cousin marriages as 1 to 1·5, we should conclude that 7·5 × 1·5—*i.e.*, 11·25 per cent.—of English Jews are the offspring of first cousin marriages. In other words, in any assembly of nine Jewish young men and women we should expect to find a son or a daughter of first cousins. If, therefore, such marriages are responsible for idiocy, we ought to find that *more* than 10 per cent. of lunatics or deaf-mutes in any asylum are the offspring of first cousin marriages. But this is not the case. Indeed, out of twenty-four children in the Jewish Deaf and Dumb Home, only three were children of first cousins—*i.e.*, "the number we should have anticipated finding in any chance selection of Jewish children."[1] Indeed, all recent work on the subject shows that near kinship

[1] See Jacobs, *op. cit.* The obvious criticism to this observation is that the numbers are far too few to be of much value.

in marriage has no evil effect *per se.* In fact, stock breeders when they have a good stock inbreed successfully. It does, however, as one would expect, intensify any hereditary taint that may occur in the family. Thus, if both cousins have a nervous or other morbid diathesis, the offspring are more likely to inherit that tendency than the children of other marriages. On the other hand, if there is any particularly valuable hereditary quality in the cousins, the marriage between them should intensify that quality in their offspring. (See Chapter XXIV., pp. 392 and 393.)

B. **Jewish Heredity and Mendelism.**—Very recently the problem of heredity in the Jew was made the subject of an interesting study by Dr. Redcliffe N. Salaman, by what is called the Mendelian Method.

In order to be able to follow intelligently the lines upon which Dr. (now Captain) Salaman carried out his investigations, and to appreciate the importance of his conclusion, it is necessary to have a clear idea of what Mendelism is.

Mendelism is a law of heredity discovered in 1866 by an Austrian monk, Gregor Johann Mendel, who, though possessing a Jewish name, was not of Jewish descent.

Mendel carried out numerous hybridization experiments on the edible pea (*Pisum sativum*), and selected for his purpose two varieties of the plant which, though identical in all other respects—such as the shape of the seed, shape and colour of pod, etc.—differed in only one particular character (say tallness or length of plant), and he found the following results:

1. The hybrid offspring (called the first filial generation, or F_1) of a cross between a 6 to 7 foot plant and a

$1\frac{1}{2}$ foot plant (called the parent plants, P) consisted entirely of plants from 6 to 7 feet high. *There were no short or intermediate forms.* He therefore called the character of tallness *a dominant,* because it prevailed to the total exclusion of the opposite character, dwarfness.

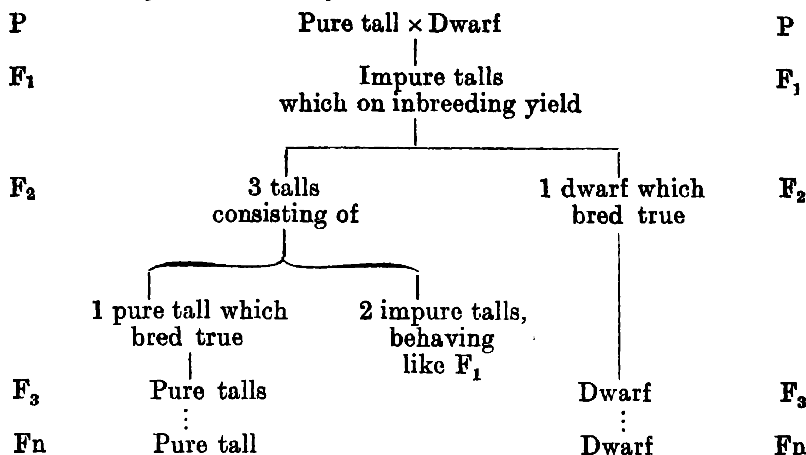
2. He next fertilized these tall hybrids among themselves (*i.e.*, inbred them), and he found that the second hybrid generation, F_2, consisted of both tall and dwarf plants (again no intermediate forms), *but the two kinds were in the definite proportion of three talls to one dwarf.* This showed Mendel that, although the F_1 plants were all tall, they were not pure talls, but that the character of dwarfness was latent in them. He therefore called the character dwarfness, which was suppressed in F_1, but reappeared in F_2, a *recessive;* and the talls of F_1 he called *impure talls* or *impure dominants,* or *hybrid dominants.*

3. On sorting out the talls and dwarfs in F_2, and self-fertilizing or inbreeding each, Mendel found that—

(*a*) The dwarfs only gave rise to dwarf offspring for any indefinite number of generations: F_3, F_4 . . . Fn—*i.e.*, they *bred true;* but that

(*b*) The talls of F_2 gave rise to one-third of *true talls,* which behaved exactly like the parent tall in that they gave rise to talls only in subsequent generations, F_3, F_4 . . . Fn; and two-thirds of *impure talls,* which, like the impure talls of F_1, produced in the next generation talls and dwarfs again in the definite proportion of 3 : 1; *or impure tall* × *impure tall* = 1 *pure tall* + 2 *impure talls* + 1 *pure short.* (× is to be read as "fertilizing, or fertilized by.")

Put diagrammatically, Mendel's results were as follows:



Explanation of the Results.—Mendel explained these results (which hold good not only for tallness and dwarfness, but also for many other contrasted characters in plants and animals) in a most ingenious yet simple manner. The male and female sexual cells (called gametes) of the tall parent he assumed to contain within them the dominant character of tallness (represented hereafter by *d*), and those of the dwarf parent the recessive character of dwarfness (similarly represented by *r*). Mendel further assumed that although each of the hybrid offspring in F_1 contains both the dominant and recessive characters, yet these characters segregate into separate gametes, so that each hybrid contains within itself an equal number of *d*-bearing and *r*-bearing gametes respectively. When, therefore, such a hybrid is fertilized or crossed by another such hybrid (*i.e.* $F_1 \times F_1$), the following combinations of gametes are possible:

(*a*) A *d*-bearing male gamete may fertilize a *d*-bearing female gamete, giving rise to a pure dominant; } = 1 pure dominant.

(*b*) A *d*-bearing male gamete may fertilize an *r*-bearing female gamete, giving rise to an impure dominant;
(*c*) An *r*-bearing male gamete may fertilize a *d*-bearing female gamete, again giving rise to an impure dominant; } =2 impure dominants.

(*d*) An *r*-bearing male gamete may fertilize an *r*-bearing female gamete, giving rise to a recessive. } =1 recessive.

Hence, by the law of chance, the members of F_2 will consist of pure dominants, impure dominants, and recessives, in the definite proportion of 1:2:1; but as both pure and impure dominants only *show* the dominant character, therefore in the example we have chosen we get the members of F_2, consisting of *three* talls to *one* dwarf. *The proportion of* 1*d* : 2*dr* : 1*r*, or 3 *dominants* : 1 *recessive, given by the interbreeding of two impure dominants* (*dr*), *is called* **Mendel's Law.**

Now, if Mendel's theory of segregation of gametes be correct, we ought to get the following **corollaries:**

(*a*) *When a hybrid* (*impure dominant*) *is crossed with a pure dominant, the resulting offspring should all be dominant* (*pure or impure*), because the following combinations are possible: Either (i.) the *d* gamete of the pure dominant might fertilize or be fertilized by a *d* gamete of the hybrid, giving rise to a pure dominant; or (ii.) the *d* gamete of the pure dominant might fertilize or be fertilized by an *r* gamete of the hybrid, giving rise to an impure dominant.

(*b*) *The crossing of a hybrid* (*impure dominant*) *with a recessive should result in equal numbers of dominant and recessive offspring*, because an *r* gamete of the recessive might fertilize or be fertilized by either (i.) a *d* gamete

of the hybrid, giving rise to an impure dominant; or (ii.) an *r* gamete of the hybrid, giving rise to a recessive.

Both corollaries have been found to hold good.

We are now in a position to understand Dr. Salaman's investigations.[1] Impressed with the distinctiveness of the Jewish type of face,[2] it occurred to him that this feature might be a character which is subject to the Mendelian method of analysis. He therefore collected examples of 136 mixed marriages (*i.e.*, marriages between Jews and Gentiles), and examined, either personally or through the agency of reliable friends, the appearances of the 362 hybrid children (F_1) of these marriages.

It was found that 336 children (*i.e.*, 93 per cent.) had a Gentile appearance, and only 26 (or 7 per cent.) had a Jewish appearance.

Salaman believes that these results show that the Jewish physiognomy is a Mendelian character which is recessive to the Gentile type; and although, according to the Mendelian theory, all the hybrid children (F_1), without exception, should have been of Gentile appearance, he explains the absence of absolute dominance to be due to—

1. A distinct tendency on the part of some of the observers to claim wherever possible a Jewish type of face for the children they examined.

2. The existence, as he found, of Jewish blood (*i.e.*, a Jewish ancestor) in the Gentile parent of some of the Jewish-looking children.

Now, if the Jewish type of face is really a *recessive* character, we ought to find that, as explained on p. 52,

[1] Redcliffe N. Salaman, "Heredity and the Jew," *Journal of Genetics*, Cambridge and London, vol. i., 1910-11, pp. 273-290. See also *Eugenics Review*, October, 1911.

[2] Roundness of the features as opposed to squareness or angularity.

when the hybrid children are mated with Jews (recessive), the resulting offspring should consist of equal numbers of Jewish and Gentile looking children; and on examining the thirty-two children of thirteen hybrid-Jewish marriages, it was found that fifteen were Gentile-looking and seventeen were Jewish-looking. The absence of strict equality (*i.e.*, sixteen of each) is obviously due to the small number of families examined, as well as, probably, to the Jewish bias in the observations. Again, in the case of hybrid-Gentile marriages we ought to expect all the children to be Gentile-looking (dominant), and that has been found to be the case with the eleven children of five such marriages. (See Plate II.)

There is still one other method left for testing this question, and that is to investigate the physiognomy of the offspring of hybrid-hybrid (or $F_1 \times F_1$) marriages, where by Mendel's Law (see p. 52) we ought to find the proportion of Gentile and Jewish looking children to be 3 : 1. But, owing to the extreme scarcity of such marriages, Salaman could not find a single example. The results, however, obtained by him in the other case are sufficiently striking to lead him to the conclusion that *the Jewish physiognomy is a recessive Mendelian character*.

The importance of this conclusion will be emphasized later, when I shall speak of the "purity of descent" of the Jewish child (see p. 93). Here I only wish to remark that, though Dr. Salaman's results are exceedingly interesting, the numbers are too few to be absolutely conclusive.[1] See, further, "bye colour" (p. 93) and "congenital deaf-mutism" (p. 393).

[1] Dr. Salaman, who kindly read the proofs of this chapter, writes me to say that, with the exception of $F_1 \times F_1$, examples which he has not yet come across, he has had a further large number of cases of the other classes which fully supports his theory.

CHAPTER IV

MARRIAGE IN GENERAL

"To join two in wedlock as husband and bride
Is as hard as it was the Red Sea to divide."
(Sota 2*a*.)[1]

MARRIAGE was looked upon by Jews with the greatest reverence, and a wife was considered as a joy to her husband. Indeed, the very name for marriage in Hebrew, *kiddushin*, means the "ceremony of sanctification." Isaac's marriage to Rebekah comforted him for his mother's death.[2]

"An unmarried man," said R. Eliezer, "is not a complete man,"[3] and "a woman is an unfinished vessel until she marries."[4] This idea has been expressed more fully by Shakespeare, who made the First Citizen of Angiers say about Lewis the Dauphin and Lady Blanche:

"He is the half part of a blessed man,
Left to be finished by such as she;
And she a fair divided excellence,
Whose fulness of perfection lies in him."[5]

He who does not marry is considered as one who commits murder,[6] and he who has no wife misses everything and has no joy and no bliss.[7] It is said that one of

[1] See "Gems from the Talmud," p. 41.
[2] Gen. xxiv. 67.
[3] Yebam. 63*a*; *cf.* Gen. R. xii.
[4] Sanhedrin 22*b*, Rashi.
[5] "King John," Act II., Sc. i.
[6] Yebam. 63*b*.
[7] *Ibid.*, 62*b*.

the reasons why Nadab and Abihu, the sons of Aaron, died young was their celibacy.[1] Improvident marriages were, however, forbidden by the Rabbis, who interpreted King Solomon's advice, "Prepare thy work without, and afterwards build thine house"[2] as meaning: Do not marry a wife unless you can support her.[3] Even if an orphan is about to marry, the community must get him a house and furniture.[4]

Although the Babylonian Rabbis advise marriage in the case of males at the age of eighteen,[5] still, it was usually the custom in Palestine to get married even at thirty or forty.[6] To marry young was, however, considered a great boon from many points of view, one being that it was a great means of preventing unchastity. R. Chisda, as already quoted (p. 34), said: "Why am I better than my friends? Because I married when I was sixteen years old, and had I married at the age of fourteen I would have been able to defy Satan."[7]

Again, R. Huna, who lectured at the Academy at Sura, said: "He who does not marry at the age of twenty spends his days in sin—either by deed or by thought."[8] Plato gives the marriage age for a woman as between sixteen and twenty, and that of a man between twenty and thirty-five.[9]

In the Middle Ages child marriages were very common for a special reason: it was inferred from Isa. lvii. 16 that the Messiah could not come until "all souls created by God had been fitted to the earthly bodies destined for

[1] Lev. R. xx. 9. [2] Prov. xxiv. 27. [3] Sotah 44*a*.
[4] Kethuboth 67*b*. [5] Abboth v.
[6] Canticles R. vii. 14, quoted by Suvalsky, *op. cit.*
[7] Kiddushin 29*b* and 30*a*. [8] *Ibid.*, 29*b*.
[9] "Laws," 721*a*, 772*d*, and 785*b*, quoted by Roper, *op. cit.*, p. 55.

their reception here below."[1] "To hurry on the great day," says Abrahams, "mothers and fathers eagerly joined their children in wedlock, each mother dreaming, perhaps, that in the child of her own offspring God would deign to plant the soul of the longed-for Redeemer."[2]

Till about the middle of last century it was rare to find an unmarried Jew in Europe, and rarer still to find an old maid.[3] For people who were not in a position to marry there were special societies for the purpose of providing them with the necessary money, trousseau, and furniture, in order to encourage them to enter the marriage state. Fishberg very reasonably suggests that "one of the causes of the large number of defectives found among the Eastern European Jews is the fact that the Jewish communities have always been doing their best to marry every defective man and woman who, among other people, would hardly have a chance to propagate their kind."[4] (See p. 399.)

At the present time the Talmudical laws are disregarded to such an extent that not only is the marriage age of Jews all over the world (except in Oriental countries like Palestine, Morocco, etc.) higher than that of non-Jews, but celibacy has become so frequent among them as to make the Jewish marriage-rate considerably lower than that of the Christian population. It is in virtue of both these phenomena, which, according to Fishberg, are due to social conditions,[5] that the modern Jewish birth-rate is lower than that of non-Jews, as will be seen later. (See Chapter XXV., p. 403 *et seq.*)

[1] Nidah 13*b*, and Kethuboth 62*b*.

[2] I. Abrahams, *op. cit.*, p. 168 *et seq.*

[3] For statistics, see Joseph Jacobs, "Jewish Statistics," pp. 50, 51.

[4] M. Fishberg, "The Jews," London, 1911, p. 245.

[5] *Op. cit.*, p. 247.

STATISTICS SHOWING THE RELATIVE AGES AT MARRIAGE IN BERLIN DURING 1900.[1]

Percentage of Married People.

	Over Twenty Years.		*Under Thirty Years.*	
	Men.	Women.	Men.	Women.
Jewish ..	51·62	52·51	6·89	20·41
Christian	60·38	52·83	15·56	24·34

Similar figures have been given for various places all over Europe. Thus, in Russia in 1897, in only 6 per cent. of Jewish marriages were the men younger than twenty, as against 31 per cent. in corresponding non-Jewish marriages. Even among the women, only 27·76 per cent. of Jewesses married before the age of twenty, as against 55 per cent. among Christian women.

STATISTICS SHOWING THE RELATIVE MARRIAGE-RATE OF JEWS AND GENTILES PER 1,000 POPULATION.

Place and Date.	*Jews.*	*General Population.*	*Authority.*
Germany, 1911	7·08	7·80	*Zeitschs. f. Demogr. u. Statist. der Juden*, 1913, p. 119.
Hungary, 1911	8·3	9·2	
Bulgaria, 1907	7·13	9·88	*Ibid.*, 1911, p. 17.
Rumania, 1910	6·09	9·44	*Ibid.*, 1912, p. 16.
Russia, 1903 ..	7·2	9·2*-11·4†	*Ibid.*, 1911, pp. 39-44.

* Greek. † Mohammedan.

These low marriage-rates for Jews exist *in spite of the fact* that the relative number of adults of marriageable ages is greater amongst Jews.

[1] Compiled from A. Ruppin, "The Jews of To-day," London, 1913, pp. 73 and 74.

The Zohar[1] (a metaphysical work of the thirteenth century) says that when God created the souls He created them in pairs, male and female. If they afterwards deserve it, the complementary pairs get united in marriage, and the union is a happy one; otherwise two souls that do not correspond are joined in wedlock, and there is constant strife between them. The same idea is expressed in the Talmud by Rish Lakish, who said that "every man gets the wife he deserves."[2] The saying that marriages are made in heaven is expressed by R. Jehuda in the name of Rav as follows: "Forty days before the child is created, a heavenly voice (Bath Kol) shouts out, 'The daughter of A is to be the wife of B.'"[3]

The Midrash says that a noblewoman once asked R. José ben Chalafta what God has been doing since the creation of the world. "He has been matchmaking since then," was R. José's reply. "But," protested the woman, "I can do that as well as God." She went home, and in one day married off a thousand of her male slaves to an equal number of her female slaves. The next morning, however, the couples came back with broken heads and limbs, complaining of their misalliances. The noblewoman then confessed to R. José that she was mistaken. Hence it is said that "it is as hard to join two people in wedlock as it is to divide the Red Sea."[4]

A similar experiment with equally disastrous results, carried out by an imperious Russian landowner, is graphically described by Prince Kropotkin in his Memoirs:

[1] The Zohar, a mystic commentary on the Pentateuch, is believed by some to be the work of R. Simeon ben Yochai (A.D. 72-110), but according to Dr. Ginsburg and others it is the work of Isaac the Blind and his disciples, between A.D. 1200 and 1230.

[2] Sotah 2*a*. [3] *Ibid.* [4] Sotah 2*a* and Gen. R. lxviii.

A landowner, noticing that the population on his estate increased very slowly, had a list of the inhabitants of his village brought to him, from which he picked out the names of boys over the age of eighteen and of girls over sixteen. He then wrote, "John to marry Anna, Paul to marry Parashka," and so on. "A great cry of despair rose from the village. Women young and old wept in every house. Anna had hoped to marry Gregory; Paul's parents had already had a talk with the Fedotoffs about their girl who would soon be of age." But all protestation and entreaties were in vain. "The master had said that the weddings should take place at such a date, and so it must be. At the appointed time the nuptial processions, in this case more like burial processions, went to the church. . . . One of the house valets was sent to the church to report to the master as soon as the wedding ceremonies were over, but soon came back, cap in hand, pale and distressed. 'Parashka,' he said, 'makes a stand; she refuses to be married to Paul. Father' (that is, the priest) 'asked her, "Dost thou agree?" but she replied in a loud voice, "No, I don't!"' The landowner grew furious. 'Go and tell the long-maned drunkard' (meaning the priest; the Russian clergy wear their hair long) 'that, if Parashka is not married at once, I will report him as a drunkard to the Archbishop . . . and I shall exile Parashka's family to the Steppes.' The valet transmitted the message. Parashka's relatives and the priest surrounded the girl; her mother, weeping, fell on her knees before her, entreating her not to ruin the whole family. The girl continued to say, 'I won't,' but in a weaker and weaker voice, then in a whisper, and at last she stood silent. The nuptial crown was put on her head; she

made no resistance, and the valet ran full speed to the mansion to announce, 'They are married!'"

The following anecdote illustrates the saying that marriages are made in heaven:

King Solomon had a very beautiful daughter, and on reading her horoscope learned that she was destined to marry an extremely poor man. In order to prevent such a thing from happening, he sent her off to an island where he had a special tower built for her, and had her guarded by seventy special watchers.

After some time, that poor man who was decreed to be her future husband was walking in the fields barefooted and very hungry, when at the approach of evening he saw the carcass of an ox lying in the road. In order to warm himself, he put himself inside the carcass and fell asleep, when a big bird came and carried the carcass away, and deposited it on the top of the tower in which King Solomon's daughter resided. In the morning the young couple met on the roof. The young lady took the youth inside her chamber and had him washed and dressed. He then became so handsome that she fell in love with him and married him. When King Solomon heard this he was very glad, and said, "Blessed be the Lord, who assigns a husband to every woman!"[1]

The Sacredness of a Promise of Marriage.

The importance of keeping a promise of marriage is illustrated by the following romance:

A pretty maiden was out for a walk in the country, and lost her way. She became very thirsty, when she saw a well in the distance. By means of a rope that

[1] Tanchuma, ed. Buber, Introduction, 136.

was hanging from the well she descended and had a drink of water. She tried to come up again, but could not. She began to cry, when a youth who passed by heard her voice and rescued her. They fell in love with each other and pledged their troth. "Let this well and this passing weasel," said the maiden, "be witnesses to our promise." The girl went back to her parents, and the youth returned to his home. The girl kept her promise and refused to marry anybody, and when she was pressed by her parents to do so she affected insanity. In the meantime the youth forgot his promise, took himself a wife and had a child. One day the child was left alone for a moment asleep in its cradle, and when its mother returned she was horrified to find her infant dead, its little throat pierced by the fangs of a weasel. After a while his wife presented him with another boy, who was carefully watched that no danger might befall him, but one afternoon he ran out into the garden unobserved, and fell into a well and was drowned. The broken-hearted mother, guessing that her affliction was due to some mystery in the past career of her husband, taxed him with it. He told her of the incident with the maiden in the well, and she insisted upon his divorcing her and returning to the lady he had jilted.[1]

Long engagements were discouraged, on the basis of the dictum in Prov. xiii. 12, that "Hope deferred maketh the heart sick, but when the desire cometh it is a tree of life."[2]

Time limits varying from twelve months for a virgin

[1] See Taanith 8*a* (Rashi) and Aruch. This story has in modern years been made the subject of a very popular Jewish opera, called "Shulamith," in which also the scene of the marriageable girls dancing in the parks (mentioned on pp. 32 and 33) is reproduced.

[2] See Maimonides, Hilchoth Ishoth i.

to thirty days for a widow are mentioned as the necessary intervals between engagements and marriage. In the case of learned families, however, it was the custom for the fiancé to go away for a few years to an academy to study. The pretty romance of R. Akiba is an excellent illustration of that custom. Akiba was a shepherd in the house of the rich Ben Kalba Shabua. An attachment was formed between the young shepherd and his master's daughter, and against her father's wish she married Akiba, on condition that he should go away for a number of years to study. Her father would not be reconciled to the match until, after a lapse of twenty-four years, Akiba returned full of glory, accompanied by twenty thousand disciples, when a reconciliation took place.[1]

It is forbidden to marry a woman before seeing her.[2] A good wife is a great gift to her husband and prolongs his years.[3] He is rich who has a refined wife,[4] for everything depends on the wife: she can make the husband good or bad.

Thus, the Midrash relates the case of a pious man who was married to a righteous woman, but on account of sterility they had to separate. The man then married a bad woman, and he afterwards became bad too; whilst the woman married a bad man, but, thanks to her good influence, he became good and upright.[5] A good and virtuous wife, says the Talmud, expands a man's character.[6] One should not marry a woman to please her relatives[7] or for the sake of advancement.[8]

[1] Kethub. 62*b* and 63*a*.
[2] Kiddushin 41*a*.
[3] Yebamoth 63*a*.
[4] Sabbath 25*a*.
[5] Gen. R. xvii., compare Abodah Zara 39*a*.
[6] Berachoth 57*b*.
[7] Tosefta Sotah v.
[8] See Suvalsky, "Chayei Hayehudi al pee Hatalmud."

During the time of the second Temple it was not unusual for people otherwise unqualified to attain to high office by bribing the authorities. Thus, Joshua b. Gamla obtained the office of High Priest, for which he was not fit, because he married a rich woman, Martha, the daughter of Baythus, who gave large sums of money to the authorities.[1]

He who marries a rich wife with the idea of inheriting her will predecease her. The reverse also holds good.[2] A man should not marry a wife with the idea of divorcing her,[3] and he who does not love his wife is like one who commits murder.[4] Marriage contracts were established in order not to make it easy for the husband to divorce his wife,[5] and therefore he who lives with a wife whose marriage settlement is less than 200 pieces of silver in case of a girl, and less than 100 in case of a widow, is like one who commits adultery.[6] Although one should not marry in haste, yet the Talmud advises that, if one sees a girl that he likes, he should marry her at once, lest she be snatched up by another.[7]

The first year after marriage a man was free from military service, so as to be near his wife.[8]

At the very earliest time men used to pay or work for their wives. "Jacob served seven years for Rachel; and they seemed unto him but a few days, for the love he had for her."[9] King Saul promised his daughter to the man who would kill Goliath.[10] Shechem said to Dinah's father, "Ask me never so much dowry and gift,

1 Yebam. 60*b*, 61*a*. 2 Tosefta Sotah. 3 Yebam. 37*a*.
4 Pirke d'R. Eliezer xi., quoted by Suvalsky, *op. cit.*, p. 102.
5 Kethuboth 39*a*. 6 *Ibid.*, 54*a*.
7 Moed Katan 18*a*. 8 Deut. xxiv. 5. 9 Gen. xxix. 20.
10 1 Sam. xvii. 25.

and I will give . . . but give me the damsel to wife."[1] Later, in the time of the Talmud, it was the custom for the girl's father to give her a dowry on her marriage, in order to help her young husband to establish himself.[2] R. Shimeon says: "It is the custom for a man to court a woman, and not for a woman to court a man." In the same way as when somebody loses a valuable article, it is the loser who looks for that article, and not the article for the loser.[3] The simile refers, of course, to the legend mentioned in Gen. ii. 22, where Eve is said to have been formed out of Adam's rib. In this connection the following anecdote is of interest: A Roman Emperor once said to R. Gamaliel that God was a thief, because He stole one of Adam's ribs whilst he was asleep. The Emperor's daughter, who was listening, casually remarked that during the previous night a burglar broke into her room and stole a silver vessel; but he left a golden one in its stead. The Emperor commented that he would not mind to have such thieves every night. "Quite so," said the girl; "that is just what God did. He took away one of Adam's ribs, but gave him a wife instead."[4]

As a contrast to this pretty compliment to women, the Midrash utilizes the same verse in Genesis for the purpose of making some cynical remarks upon feminine nature. God, says the Midrash, considered from what part of Adam He should create Eve. "I will not create her from the head," said He, "lest she be too proud; nor

[1] Gen. xxxiv. 12. [2] Kethuboth 52*b* and Kiddushin 30*b*.

[3] Kidd. 2*b* and Nidah 31*a*.

[4] Sanhedrin 39*a*. The text gives "an infidel" instead of "an Emperor," but this is an alteration that was originally made by a censor.

from the eye, that she may not be too inquisitive; nor from the ear, so that she should not be an eavesdropper; nor from the mouth, so that she may not be a gossip; nor from the heart, lest she be a shrew; nor from the hands, lest she be a busybody; nor from the foot, so that she should not be gadding about; but from the rib, a part which is concealed, so that she be very modest." Nevertheless, all these faults are found in her, as it is said "But ye have set at nought all My counsel" (Prov. i. 25).[1]

Again, says the Midrash, why do women, but not men, have to use scent and cosmetics? Because man is made from earth, which does not decompose, and woman is made from rib, which does decompose. Also man is more forgiving than woman, because earth is softer than bone.[2] A woman's voice is more musical than a man's, because bone is resonant and earth is not.[3]

Manners and Customs associated with Marriage.

It was the custom in the time of the Talmud to sprinkle wine and nuts before a bridal procession as a sign of luck. This was, however, done only in summer, but not in winter, on account of the dirt.[4]

Barley was sown in flower vases a few days before the wedding, as a sign of fecundity,[5] and was thrown over the young couple as is rice in modern times.[6]

In some places it was the custom in Talmudic times to carry a hen before a bridal procession as a symbol of procreation, and, according to a legend in the Talmud,

[1] Gen. R. xviii. 2. [2] Gen. R. vii.; compare also Nidah 31*b*.
[3] Nidah 31*b*. [4] Berachoth 50*b*, Semachoth viii.
[5] Kethub. 8*a*, Ab. Zarah 8*b*. [6] I. Abrahams, *op. cit.*, p. 196.

the destruction of a place called Tur Malka was due to this custom. One day some Roman soldiers seized the fowls, and were maltreated by the Jews in consequence. This was reported to the Government as a case of Jewish rebellion, and the Emperor came and destroyed the city and massacred its inhabitants.[1]

These ancient rites all survived into the Middle Ages.[2] In Eastern Europe it is still the custom for Jewish marriage ceremonies to be carried out in front of the synagogue, in the open air, as a sign that their children should be as many as the stars in the sky.

The Domestic Life of Husband and Wife.

The Duties of a Wife to her Husband.—The wife should not be quick-tempered.[3] She ought to be looking after the house, dress nicely, and make herself nice-looking.[4] She must not flirt with other men,[5] must conduct herself with extreme modesty, and must not show her bare arms to strange men.[6] It is narrated that Chuma, the wife of Abaye, once came to the court-house of Rava to claim maintenance after her husband's death, and she raised her hands to show the height of the goblets of wine that she was in the habit of drinking during the lifetime of her husband. This action exposed her bare arms (because women used to wear wide sleeves), which were so clear and beautiful that they made a strong impression even on Rava himself. Rava's wife thereupon became so jealous that she expelled the plaintiff from the court-house.[7]

[1] Gittin 57*a*.
[2] I. Abrahams, *op. cit.*, p. 196.
[3] Sotah 3*b*.
[4] Moed Katan 9*b*.
[5] Kethub. 72*a*.
[6] *Ibid.*
[7] *Ibid.*, 65*a*.

A wife must do light domestic work even if she brought with her a hundred servants, for idleness is the mother of all evil.[1] She must, when possible, suckle her child, but if she gave birth to twins she need not suckle both.[2] She ought to wash her children before going to school, and must go and fetch them from school.[3]

A wife who acts in accordance with her husband's wishes will have good and upright children.[4] The story is told of a Babylonian, who married a Palestinian wife, that he told her to cook for him *a couple* of lentils, and she carried out his instructions literally by cooking *two* lentils. He got very angry with her, and sarcastically told her next time to cook a bushel of lentils, which she did ! He then told her to bring him two *butzine* (which may mean either candles or carrots, but he wanted carrots), and she brought him two candles. He then lost his temper, and said, "Go and break these candles against *baba*" (which means in Aramaic a door). But a learned man of the name of Baba ben Buta happened to sit at the door, so she broke the candles over his head. When Baba asked her why she did that, she replied: "Such was my husband's order." And Baba said to her: "Because thou hast done as thy husband wished, may God bless thee with two sons like Baba ben Buta."[5]

The Duties of the Husband to the Wife.—The husband is responsible for the wife's food and proper clothing according to his means.[6] He must provide her with garments to the value of at least 50 zuzim (about 30 shillings) a year.[7] This was a very considerable sum

[1] Kethub. 59*a*. [2] *Ibid.*, 61*a*. [3] Yalkut, Shimeons.
[4] Nedarim 66*b*. [5] *Ibid.* [6] Kethub. 58*a* and 64*a*.
[7] Kethuboth vi. 5.

in those times, as is evidenced by the fact that for a sum of 10 zuzim (*i.e.*, about 6 shillings) it was possible to buy a plot of land, and that Rabina did not want to trust R. Ashi with this sum without a written, signed and witnessed I.O.U.[1] The sum of 50 zuzim was, however, considered ridiculously small as the annual dress-allowance for a wife, since a large proportion of it had to be spent in boots, which the Talmud stipulated should be bought for the wife three times a year.[2] A wife with such a small allowance was therefore characterized as "a scantily attired but well-shod messenger."[3] The dresses were to be given according to the age of the wife and the season of the year, as well as according to the prevailing fashion of the place.[4] In Palestine there was a popular saying that "it is better that I should go naked rather than not clothe my wife decently."[5] A learned man's wife must dress better than that of an ignoramus.[6]

The husband must also provide his wife with cosmetics and jewellery,[7] and, indeed, Ezra introduced the custom of commercial travellers in perfumery visiting houses, so as to give the wife a chance to buy in order not to lose grace in her husband's eyes.[8] If the wife is ill, he must pay for her proper medical treatment, and must not divorce her during her illness.[9]

One must not aggravate one's wife. "Beware," said a Rabbi, "of causing a woman to shed tears";[10] and one must not be too particular about domestic expenses.[11] One must love one's wife like oneself, and

[1] Baba Metzia 75*b*. [2] Kethuboth 64*b*. [3] Sotah 8*b*.
[4] Pessachin 109*a*. [5] Jer. Kethuboth vi. 5.
[6] Jer. Horyoth iii. 7. [7] Jer. Kethub. v. 6.
[8] Baba Kama 82*a*. [9] Sifré to Ki Tetze and Kethuboth 51*a*.
[10] B. Metzia 59*a*. [11] Bamidbar Rabba ix.

respect her more than oneself.[1] One must endeavour to do the wife's wishes, so that his children be rich.[2] But one should not be altogether governed by her.[3] The husband must provide a nice house and clothes, for a woman gets more pleasure out of these things than out of the luxuries of the table.[4] The wife of R. Chisda was once ornamenting herself in the presence of her daughter-in-law. R. Huna bar Chinena, who was present at the time, remarked that it only becomes a young woman to adorn herself, but not an old one. To this R. Chisda cynically rejoined: "By the Lord! even a grandmother on the brink of the grave is as fond of ornaments as her granddaughter. A woman of sixty is as enthusiastic over the music of a cymbal, and of dancing, as a girl of six."[5] Indeed, from the point of view of jewellery, women are a people by themselves.[6]

Woman's ornaments were meant, however, for the purpose of endearing her to her husband, and it was considered bad form on the part of a woman to go out into the street bedecked with jewellery, because other people will look at her.[7] A woman who goes out bejewelled into the street is like a bejewelled bear: "a wise man does not look at what is on her, but at her teeth."[8]

A wife who is ordered by her husband to do useless labour, such as drawing water and pouring it out, is entitled to a divorce, because he makes her look like a fool.[9] She is similarly entitled to a divorce if he makes any other unreasonable demands of her, such as pro-

[1] Yebamoth 62*b* and Sanhedrin 76*a*.
[2] Baba Metzia 59*a*.
[3] Baba Metzia 59*a*, Betza 32*a*.
[4] Esther Rabba 3.
[5] Moed Katan 9*b*.
[6] Sabbath 62*a*.
[7] Tanchuma to Vatetze Dinah.
[8] Gen. R.
[9] Kethub. 72*a*.

hibiting her to wear ornaments,[1] or to visit her parents,[2] or to go to a ball[3] or to a house of mourning.[3] He must, also, not prohibit her from borrowing or lending some domestic articles,[4] because it will give her a bad name.

The Talmud says that those who were afflicted with poverty or dyspepsia in their life, and received those sufferings with resignation, will enjoy immunity from punishment in the world to come. Some Rabbis added also " one who has a shrew of a wife "; for, said they, it cannot be argued that such a wife can easily be divorced and therefore ought not to be included, since in some instances there may be a heavy money settlement on her which the husband cannot afford to give her, or he may not wish to divorce her on account of their children.[5]

The following interesting medico-legal case is worth quoting: In the Egyptian village of Sechanja a man wanted to obtain a divorce from his wife without paying her the marriage settlement. So he invited his friends to a feast, and made them as well as his wife drunk: " Puis après les avoir fait coucher dans une promiscuité indécente, il répandit du blanc d'œuf parmi eux. Ensuite, s'etant procuré des temoins, il vint plaider le divorce pour cause d'adultère. Mais l'un des juges du nom de Baba ben Butha dit à ses collègues, 'Je tiens de mon maître (Shammai l'Ancien) que l'albumine se coagule simplement sous l'influence de la chaleur, tandis que le sperme traverse les tissus en les empessant.' " This differential test was tried, and the husband was punished and made to pay a fine for his falsehood.[6]

R. Judah is responsible for the following satirical

[1] Kethub. 48*a*. [2] *Ibid.*, 71*b* and (3). [3] *Ibid.*, 72*a*.
[4] *Ibid.* [5] Erubin 41*b*. [6] Gittin 57*a*.

remark: "There are fourteen strong things in the world," said he, "each one stronger than the other:

"The abyss is strong, but earth conquers it.
The earth is strong, but the rocks are stronger.
The rock is strong, but iron breaks it.
Iron is strong, but fire can melt it.
Fire is strong, but water quenches it.
Water is strong, but the clouds absorb it.
The clouds are strong, but the wind disperses them.
The wind is strong, but a wall withstands it.
A wall is strong, but a man destroys it.
A man is strong, but trouble unnerves him.
Trouble is strong, but wine removes it.
Wine is strong, but sleep overcomes it.
Sleep is strong, but illness dispels it.
Illness is strong, but the Angel of Death conquers it.
But a bad wife is worse than all these."[1]

Many sages who shared the fate of Socrates comforted themselves with the thought that their living together under the same roof with their Xanthippes was part and parcel of a learned man's life. R. Chiya had a shrew of a wife, but he treated her well, saying, "It is enough if our wives bring up our children and save us from sin."[2]

"Any ache and any smart
Rather than an aching heart;
Any ill and cruel fate
Rather than a cruel mate,"[3]

was the pitiful exclamation of a probably long-suffering Rabbi.

As an encouragement to the timid, the Midrash says: "Many go to sea, and the majority come home safely. It is the few who go and do not return. Thus, many take a wife, and most of them prosper. It is only the few who stumble."[4]

[1] Eccles. R. vii. [2] Yebam. 63*a*.
[3] Sabbath 11*a*, rendered into rhyme by I. Myers, *loc. cit.*, p. 47.
[4] Bamidbar Rabba ix.

Adoption.

In cases of sterility it used to be the custom for the women to adopt other people's children, or orphans, or foundlings. Thus, Sarah, Rachel, and Leah, who had been childless, gave their maid-servants to their husbands, and adopted their children.[1] In case a man died childless, it was the duty of his brother to marry the widow, in order to name the son, that might be born, after the deceased man.[2] (See next chapter under Levirate.) Pharaoh's daughter adopted Moses.[3] Mordecai adopted his cousin Esther.[4] Anybody who adopts a child should be honoured as a father.[5] Thus, R. Joshua asked, "Why is it written (2 Sam. xxi. 8), 'the five sons of Michal'? Was it not Merab who bore them?" But the answer is that, although Merab really gave birth to them, still, it was Michal who reared them, and they were therefore named after her. This is meant to teach that he who brings up an orphan in his house is as if he were his father. R. Chanina drew the same moral from the verse in Ruth iv. 17, "And the women her neighbours gave it a name, saying, There is a son (Obed) born to Naomi." It was not Naomi, but Ruth, that bore him; but because Naomi reared him, therefore he was called her son.[6]

An adopted son could not inherit his foster-father, even if the father left no issue, but the adopted child had to recite the *Kaddish* (prayer after the dead)[7] if the man had no children of his own.

[1] This was the law of Hammurabi, and was copied by the Hebrews from the Babylonians.

[2] Deut. xxv. 6. [3] Chr. iv. 18. [4] Esth. ii. 7.
[5] Sanhedrin 19*b*. [6] *Ibid.* [7] See p. 18.

CHAPTER V

THE PROHIBITED DEGREES OF MARRIAGE

"Ye shall therefore keep My statutes and My judgments, and shall not commit any of these abominations" (Lev. xviii. 26).

THE Bible enumerates the following degrees of kinship which a man must not marry: A mother, a stepmother, sister, half-sister (legitimate or not), granddaughter, aunt (on the paternal side), daughter-in-law, brother's wife (except in cases of levirate marriage), stepdaughter, wife's mother, step-granddaughter, or wife's sister during the wife's life.[1] The Talmud enumerates a few more which it is not necessary to mention here. "One who begets an illegitimate child from a prohibited mate," says the Talmud, "has committed a sin which cannot be rectified."[2]

In introducing these prohibited degrees, the Bible enjoins the children of Israel not to "do after the doings of the land of Egypt" or the land of Canaan. Marriage between sister and brother was common amongst the Egyptians, who were a highly cultured race. M. Maspero[3] translated an Egyptian papyrus in which one parent says to the other: "Ahuri, our daughter loves her brother Noferkepshtah; let us marry them together

[1] Lev. xviii.

[2] Chagigah 9*a*.

[3] G. Maspero, "Des Contes Populaires de l'Egypte Ancienne," Paris, 1882, p. 52.

as is the custom." Diodorus and Philo Judæus also refer to this custom as quite common.[1]

Among the Jews themselves, marriage with near kin was practised in the earlier times. Thus, Abraham married Sarah, who was his half-sister (the daughter of his father, but not the daughter of his mother),[2] and the daughters of Lot practised incest with their father.[3]

As to the ground of prohibition of the marriages of near kin, nothing whatever is mentioned anywhere in the Bible or the Talmud; but, amongst the punishments with which such unions are to be met, the Bible states that marriage with a sister was punishable with extermination.[4] Marriage with an aunt or with a brother's wife will, as a punishment, result in sterility.[5] That sterility, however, was not recognized as a necessary biological sequence of such marriages is seen from the law about levirate marriage (p. 77).

From a purely biological aspect there can, of course, be no reason whatever for not marrying a deceased brother's wife, since there is no blood-relationship between them. Indeed, from a purely biological standpoint there can be no reason for interdicting the marriage of the closest relatives. The Ptolemys habitually practised incest, having married their sisters and other close relatives without any visibly evil results. They were neither sterile nor short-lived, and were not particularly subject to disease. Some of them, moreover, were singularly sharp-witted. "Cleopatra, who was the daughter of a brother and sister, and a great-great-grand-

[1] Huth, *op. cit.*, p. 35.
[2] Gen. xx. 12.
[3] Gen. xix. 30.
[4] Lev. xx. 17.
[5] Lev. xx. 20, 21.

daughter of Berenice, who was both cousin and sister to her husband, might with advantage compare in astuteness to Catherine de' Medici of France."[1]

It is true that the Egyptians decayed in wealth and power almost from the accession of the Ptolemys, but the theory is untenable, says Huth, that this was due to their consanguineous marriages, "since the custom was not introduced, but only followed, by them."[2]

The question has also been attacked experimentally in various animals and plants, and the results are not against such unions on biological grounds. The only apparent reasons against such marriages are—

1. The marked differences in age between parents and children (see p. 29).

2. The risk of brothers and sisters marrying each other while yet too young.

3. The risk of undue influence being exercised on the part of relatives to unite two relatives who are unsuitable to each other[3] (see p. 63, ref. 7).

Why, however, the Jewish law forbids marriage between nephew and aunt, and not between uncle and niece, it is not easy to explain.

By the following fallacious *a fortiori* reasoning R. José ben Thadai of Tiberias wanted to prove that it is not permissible to marry any girl except she be the daughter of a widow or divorcée. "For," said he, "if I may not marry my own daughter, whose mother is allowed to me, how much more must I not marry the daughter of another married woman, whose mother is not allowed to me!" R. Chanina answered: "If your reasoning be correct, then a High Priest, who must not marry a widow

[1] Huth, *op. cit.*, p. 37. [2] *Ibid.*, p. 38. [3] *Ibid.*, p. 342.

or divorcée, would be practically excluded from marrying anybody."[1] And it is, of course, well known that celibacy was not allowed to Jewish priests.

Levirate.

Such was the importance attached to children that, if a man died without issue, his widow was given to his brother for a wife, in order that "the firstborn which she beareth shall succeed in the name of his brother which is dead, that his name be not put out of Israel."[2] By this it is not meant that the child must necessarily bear the same Christian name as that of the deceased man, but that he becomes his heir.[3] Such marriage of a deceased brother's widow is called "Levirate." Some people see in levirate a hint at telegony (see p. 41).

A story is told in the Talmud[4] regarding thirteen brothers, of whom twelve died childless, and it fell to the lot of the surviving brother to marry all the widows. When he pleaded inability to support them all, the widows replied that they would each support the household for one month in the year. "But what am I to do in a leap year?" (the Jewish leap year consisting of thirteen months), inquired the unfortunate man. "I shall contribute towards the maintenance of the household during that intercalary month," replied Rabbi, before whom the pleading was held. After three years had passed, and the first leap year month arrived, Rabbi had to support, in addition to the husband with his twelve wives, also a crowd of thirty-six children!

[1] Derech Eretz R. i.

[2] Deut. xxv. 5, 6; Ruth, *passim*; Matt. xxii. 25 *et seq.*

[3] Yebam. 24*a*.

[4] Jer. Yebam.

There are several cases in which levirate was not allowed, viz.:

1. If a man married his brother's daughter (which is permissible according to Jewish law), and he died childless, the widow, being the daughter of the surviving brother, cannot be given to him as wife.

2. If a man had another wife in addition to his fraternal niece, the surviving brother, who is the father of the first wife, must not marry either of the widows.[1]

3. If a King dies without male issue, his brother is not to marry his widow according to levirate law, nor is a King to perform that duty in the case of his brother's widow.[2]

4. Further, if the widow is impotent or her dead husband suffered from impotence, levirate marriage is not allowed.[3]

5. Again, if the man is suffering from a contagious disease like leprosy, or has an occupation (like tanning) which might conceivably be objectionable to the widow, this marriage is not to take place.

The custom of levirate marriages prevailed also among the Arabs[4] and among the Abyssinians,[5] as well as among many non-Semitic peoples.[6]

In general, however, such marriages were distasteful to the Rabbis, and hence they ordained that Chalitzah (see next section) must take precedence over levirate. The ceremony of levirate has now been given up altogether in favour of Chalitzah.

[1] Yebam. 2*a*. [2] Sanhedrin 18*a*. [3] Yebam. i. 1.

[4] See W. R. Smith, "Kinship," etc., p. 87.

[5] *Cf.* Letourneau, "Evolution of Marriage," p. 265.

[6] *Cf.* Starcke, "Primitive Family," pp. 157, 158; *International Journal of Ethics*, iii. 465; and Westermarck, "History of Human Marriage," pp. 510-514.

Chalitzah, or the Ceremony of Loosening the Shoe.

If levirate was impossible on account of unwillingness of the brother, "then shall his brother's wife come unto him in the presence of the elders, and loose his shoe from off his foot, and spit in front of him, and say, So shall it be done unto that man that will not build up his brother's house."[1] This ceremony is in existence at the present day, and has superseded that of levirate. According to Pinchas Elias,[2] by the spitting in the face the "spirit" which the woman obtained from her husband (see p. 41) escapes from her.

[1] Deut. xxv. 9. [2] Sefer Ha'Berith, 1804, i. 73*b*, col. 2.

CHAPTER VI

INTERMARRIAGE AND THE PURITY OF DESCENT OF THE JEWISH CHILD

"Ezra did not leave Babylon until he expurgated her from all racial impurity" (Kiddushin 70*a*).

THE question of the intermarriage between Jews and Gentiles is one of considerable interest from the point of view of this book. When we discuss the modern biostatic characters of the Jewish child, it will be of interest to ask ourselves the question, *What exactly do we mean by the term "Jewish child"?* If, for instance, we could show that the admission of non-Jewish blood by intermarriage from the earliest time to the present day is a negligible quantity, then we might be justified in believing that the biostatic and anthropological factors peculiar to the Jewish child are pure racial characters, possibly modified to some extent by influences of environment. If, however, the degree of prevalence of intermarriage has been of such an extent as to cause a considerable infusion of non-Jewish racial elements into Jewish veins, then we must conclude that any differences that may exist between the characters of Jewish and non-Jewish children have very little to do with the question of race—are not, that is to say, due to anatomical or physiological peculiarities, but are rather in the main the result of social, religious, and political environment.

It is therefore important that we should make a brief historical survey of intermarriage between Jews and other nations, in order that we may be in a position to estimate its effects upon the modern Jewish child.

In spite of the Biblical prohibition of intermarriage with heathen races,[1] a reference to the Bible will show that a considerable number of such marriages did take place. Thus, to mention only a few, Hagar, a wife of Abraham, was an Egyptian, and Zipporah, the wife of Moses, was a Midianite. David was a descendant of Ruth, a Moabite woman, and his son Solomon "loved many strange women . . . of the Moabites, Ammonites, Edomites, Zidonians, and Hittites."[2] Moreover, the Bible expressly permitted the Hebrews to marry captive women in times of war.[3] During the Babylonian captivity, Ezra records that the "people of Israel, the priests, and the Levites, have not separated themselves from the people of the lands. . . . For they have taken of their daughters for themselves, and for their sons."[4] And Malachi cries out that "Judah hath profaned the holiness of the Lord which he loved, and hath married the daughter of a strange god."[5]

In the time of the Talmud intermarriage was also practised. Thus, Joseph Jacobs mentions that, of the 200 doctors of the Mishna up to A.D. 200, no less than eight were of alien blood (including Akiba, Onkelos, R. Meir, Schemjah, and Abtalion); but he adds that, of the 1,500 doctors of the Gemara from A.D. 200 to 600, he could only find one (Mari ben Rachel) who seems to have been descended from a proselyte.[6]

[1] Deut. vii. 1-3. [2] 1 Kings xi. 1. [3] Deut. vii. 1-3.
[4] Ezra ix. 1, 2. [5] Mal. ii. 11.
[6] J. Jacobs, "Racial Characteristics of Modern Jews," *Journ. Anthropol. Inst.*, 1885. (Reference to Baba Bathra 149*a*.)

During the Middle Ages, again, intermarriage between Jews and Gentiles was taking place, in spite of the feeling of hostility between Jews and Christians in those times, and notwithstanding the prohibition of such unions by both Synagogue and Church. The greatest number of those marriages took place in Southern Europe, especially Spain, Portugal, and Gaul.[1] Indeed, Graetz goes so far as to suggest that the first Jewish communities between Worms and Mayence were the children of the vast horde of beautiful Jewish captive women whom the Vangioni had compelled to minister to the satisfaction of their desires.[2] And Fishberg believes that a large proportion of the blondes encountered among the Jews of to-day may have been acquired into the fold of Judaism in that manner.[3]

In South Russia, between the seventh and the eleventh centuries, proselytism on a large scale took place, when the Chozars, a people of Turkish origin, embraced Judaism; and some maintain that a considerable influx of non-Jewish blood into the veins of Eastern European Jews took place at that time as a result of the commingling of those proselytes with the Jews in that region. Indeed, the authorities who maintain that the Jews are not a pure race go to the length of saying that "the Jews in Southern Russia, Hungary, Roumania, and part of Poland, are mainly descendants of Chozars who intermarried with Jews."[4] Another instance of wholesale conversions are the Falashas, neighbouring Arab tribes in Yemen.

As regards mixed marriages in modern times, figures

[1] See H. Graetz, "History of the Jews," vol. iii., pp. 36, 44, 527.
[2] *Ibid.*, p. 42. [3] M. Fishberg, *op. cit.*, p. 190. [4] *Ibid.*, p. 192.

are available from about the middle of the nineteenth century onwards, and a study of such statistics shows that the degree of their prevalence in various countries is, as one would expect, in direct proportion to the degree of religious indifference, as well as to the amount of the social intercourse between Jews and Gentiles. Thus, in Eastern Europe, where the Jews are both poor and very orthodox, mixed marriages are practically non-existent. On the other hand, in Western Europe and the United States, where the Jews and Gentiles are in intimate social contact with the general population, such unions are very prevalent. In Berlin, for instance, in 1905, 17 per cent. of all Jewesses and 27 per cent. of all Jews married Christians. In other words, every fourth Jew and every sixth Jewess married outside their faith.[1] In Hamburg, in the quinquennium 1901-1906 the number of mixed marriages was 61·19 per cent.; whilst in Copenhagen, which contains about 4,000 Jews—viz., four-fifths of the total Jewish population in Denmark—the proportion of such marriages increased at the following rates: 1880-1890, 15·17 per cent.; 1891-1900, 71·07 per cent.; 1901-1905, 96·05 per cent.[2]

In England and America mixed marriages are steadily on the increase, although their number cannot be given statistically; but in Australia, owing to a recent revival of religious and commercial life, there has been a notable diminution during the last decade in the proportion of mixed marriages.[3] Thus, in 1901 they amounted to 46·1 per cent., but in 1911 they dropped to 20·6 per cent.

[1] A. Ruppin, "Die Juden der Gegenwart," pp. 78-96, quoted by Fishberg, *op. cit.*, p. 199.

[2] Fishberg, *op. cit.*, p. 197.

[3] Israel Cohen, "Jewish Life in Modern Times," London, 1914, p. 306.

So much for facts. In order to analyze the influence that such intermarriages have had upon the racial purity of the Jewish child, we must pursue our inquiries in the following directions:

1. In what respects did the Jewish racial characters differ from those of the peoples with whom they intermarried?

2. To what extent did such mixed marriages take place?

3. What is the fertility of mixed marriages?

4. Is there such a thing as "prepotency" of the Jewish type—that is to say, does the Jewish blood possess, as it has been alleged to do, some mysterious power of transmitting the type uninterruptedly from generation to generation, in spite of admixture with other blood? Or, stated in Mendelian terminology, is the Jewish type a dominant or recessive feature?

5. Lastly, how many of the offspring resulting from mixed unions remain within the Jewish fold? For it is obvious that, if the majority of such offspring leave the Jewish community, then the effect of these marriages upon the racial purity of the Jewish child cannot be very significant.

I propose to discuss briefly each of the above questions.

1. **Racial Characters of the Jews and of the People with whom they intermarried.**—The more important physical features which are considered to be racial characters of a people depending only on heredity are—

(*a*) *Complexion*, including the colour of the skin, hair, and eyes.

(*b*) *The form of the head as determined by the cephalic index*, by which is meant the width of the head expressed as a percentage of its length—*i.e.*, $\frac{\text{width of head}}{\text{length of head}} \times 100$.

When the index is less than 79, the head is said to be *dolichocephalic*, or long-headed. (Hyperdolichocephalic =up to 76; dolichocephalic=76-77; and subdolichocephalic=78-79.) If it is between 79 and 81 it is called *mesocephalic*, and if over 81 the type of head is called *brachycephalic*, or broad-headed. (Subbrachycephalic= 82-83; brachycephalic=84-85; hyperbrachycephalic= 86 and over.)

It is believed that the ancient Jews were of a complexion midway between dark and fair,[1] and dolichocephalic;[2] whilst the non-Semitic Amorites, as seen from the engraved portraits left on monuments by Egyptian artists, were blonde and dolichocephalic;[3] the Hittites were dark and brachycephalic, possibly a Mongoloid or Armenoid race; and the Cushites were probably negroid in type.

The prevailing type of complexion of modern Jews is dark, but there is a certain proportion (15 to 20 per cent.) of blondes among them, and those who believe that complexion is a racial character are of opinion that these blondes are the descendants of the Amorites (see p. 94) or of the people with whom the Jews intermarried in the Middle Ages. The striking resemblance between Jews and Armenians is strong evidence of their common ancestry (from the Hittites).

It is, however, not at all established that complexion is a racial trait. Dr. Zollschan,[4] for instance, has brought forward evidence in favour of the view that variety of complexion is determined by climatic and geographical

[1] Negaim ii. 1; see also p. 9.

[2] W. Z. Ripley, "The Races of Europe," p. 390.

[3] A. H. Sayce, *op. cit.*, p. 112.

[4] "Das Rasenproblem," Vienna, 1912, p. 123.

conditions, as, indeed, was believed to be the case in the time of the Bible, wherein the Shulamite says, "Look not upon me, because I am black, *because the sun has browned me.*"[1]

Moreover, the presence of blondes among Samaritans who have never intermarried seems to militate against the conclusion that variety of complexion is a true sign of racial intermixture. Fishberg, however, who is a very energetic exponent of the theory of the racial impurity of Jews, points out that climate cannot be responsible for differentiation of pigmentation, since there are blonde Jews living in countries where the bulk of the population is brunette—*e.g.*, in North Africa.[2] According to Professor Krauss, the colour of the Jewish hair was black[3] (*cf.* the regulation about leprosy, Lev. xiii.). Indeed, the fact that David was blonde[3] and red-haired[4] is taken as an indication of infusion in him of foreign blood.[5] Jacobs, however, insists that the colour of hair is no racial characteristic, but that red hair is a step towards albinism, and is due to the absence of the darker of the two pigments which determine the colour of hair, albinism being due to absence of both pigments.

As regards cranial measurements, no reliable data are available to indicate with any degree of certainty the form of the head of ancient Jews;[6] although the Arabs, who are the best living representatives of the Semitic people, are dolichocephalic.[7] But whatever that shape

[1] Cant. i. 5. [2] See also W. Z. Ripley, "The Races of Europe."
[3] See "Hashiloah," vol. xxi., p. 356. [4] 1 Sam. xvii. 42.
[5] See Sayce, *op. cit.*, p. 74. [6] See p. 8.
[7] Lombroso examined five Jewish skulls of the second century found in Rome, and he found that three were dolichocephalic and two brachycephalic ("L' Antisemitisimo e le Scienze Moderne" (Appendix), Torino, 1894).

may have been, there is no doubt that modern Jews exhibit great heterogeneity in this respect. The prevailing type among European Jews is meso- or sub-brachycephalic, with a cephalic index ranging between 80 and 83; but the Jews in the Caucasus are markedly brachycephalic (with a cephalic index of 85·2), whilst those in Africa and Arabia are dolichocephalic (C.I. = 78).

If we accept it as a fact that head form is a purely racial character, then the great variety in the forms of Jewish heads obviously becomes a proof of their racial impurity. Some anthropologists, however, believe that the shape of the head is a character which is not determined by heredity, but is subject to changes due to environment, such as intellectual activity and the pose of the body assumed in one's daily occupations, brachycephaly being assumed to be an accompaniment of great cerebral development. Indeed, Professor Boas measured the heads of 30,000 immigrants and their descendants in New York, and found that Eastern European Jews with brachycephalic heads become in the next generation dolichocephalic.[1] It is interesting to note a similar view was held in the time of the Talmud by Hillel, who believed that the shape of the adult head depends on the treatment received by the growing infantile skull at the hands of the nurses.[2] Sayce mentions that the children of the Flathead Indians of North America had their heads artificially flattened by placing them between boards when their bones were still soft and plastic.[3] Fishberg criticizes Boas's figures by saying

[1] Franz Boas, "Changes in Bodily Forms of Descendants of Immigrants," Washington, 1910.

[2] Sabbath 31*a* and Abb. d'R. Nathan xxv. (see also pp. 16 and 335).

[3] A. H. Sayce, "The Races of the Old Testament," London, 1891, p. 15.

that they are too few in number and extent of territory; whilst he disposes of the theory that the cranial configuration depends on the intensity of intellectual activity by the contention that, if advance in culture would be invariably accompanied by widening of the head, then some races, like the English, who are dolichocephalic, "should have been doomed to eternal barbarism."[1] Moreover, measurements taken of the heads of 486 students at the Massachusetts Institute of Technology showed a variation in the cephalic index between about 70 and 87, the largest number (viz., 14 per cent.) having an index of 77;[2] and Dr. Livi is quoted by Ripley as having shown that in Northern Italy the professional classes are longer-headed than the peasants, while in the south the opposite rule prevails.[3] It will be thus seen that anthropological science is as yet in too unsettled a state to enable us to draw any definite conclusions regarding the racial purity of the Jewish child from cranial measurements.

Note.—In what has gone before we spoke of cranial measurements as taken of adults, but Boas[4] and Ripley[5] have shown that the cephalic index is a factor which is uninfluenced by growth, and remains constant from childhood to old age—that is to say, although the cephalic index slightly decreases with increasing age, yet the type of the head remains the same; a brachycephalic always remains brachycephalic, and a dolicho-

[1] Fishberg, *op. cit.*, p. 54.

[2] See W. Z. Ripley, "The Races of Europe," London, 1900, p. 41.

[3] *Ibid.*

[4] F. Boas, "The Form of the Head as influenced by Growth," American Science, New Series, iv. 50-57.

[5] Ripley, *ibid.*, iii. 888, 889.

cephalic always remains dolichocephalic, as the following examples show:

Tribe.	*Adult.*	*Children.*
Micmac	79·0	80·9
Cherokee	82·0	81·0
British Columbia	83·6	85·3
Navajo	84·2	86·8

According to Boas, the decrease with age is due to the growth of frontal sinuses and the occipital protuberance, especially in males. For similar reasons women are more brachycephalic than men.

2. Extent to which Jews intermarried with Other Nations.—This question, like the preceding one, has provided a field of heated controversy. Jacobs believes that the relative number of such mixed marriages was not great. I have already mentioned that, although no less than eight of the 200 doctors of the Mishna up to A.D. 200 were proselytes, he could only find one amongst the 1,500 doctors of the Gemara (A.D. 200-600). R. Eliezer (probably with the usual Talmudical exaggeration) said that Ezra did not leave Babylon until he expurgated her from all racial impurity and made her as pure as fine flour.[1] During the Middle Ages, again, Jacobs could only trace sixty proselytes.

As regards the Chozars, it was pointed out by Jacobs that these proselytes formed the Karaite sect, which has remained altogether distinct from the rest of European Jews. Indeed, all historical evidence seems to point to the fact that from the second to the nineteenth centuries there was very little intermixture between Jewish and Gentile bloods.

[1] Kiddushin 70*a*.

Says Mr. E. A. Freeman: "They (the Jews) are very nearly, if not absolutely, a pure race in a sense in which no other human race is pure. Their blood has been untouched by conversion, even by intermarriage."[1]

On the other hand, according to M. Reinach, "the enormous growth of the Jewish nation in Egypt, Cyprus, and Cyrene, cannot be accounted for without supposing an abundant infusion of the Gentile blood."[2]

As regards modern statistics of mixed marriages, the chief sources of error that have to be considered, in estimating their effect upon the modern Jewish child, are the following:

(1). The fact that those statistics only apply to marriages contracted between two people whose creeds differ at the time of the marriage, but do not include unions between Jews and proselytes.

(2). In those countries where marriage between Jew and Christian is forbidden, many of the marriages in which one of the parties is styled as "free-thinker" are really mixed marriages. Hence mixed marriages probably occur to a considerably greater degree than is shown by statistics. Jacobs is, however, of opinion that probably not more than 0·2 per cent. of all Jewish marriages throughout the world are mixed.[3]

3. **The Fertility of Mixed Marriages.**—Whether mixed marriages are as fertile as pure Jewish marriages is a matter which is still unsettled. Superficially, statistics

[1] Quoted by James K. Hosmer in "The Jews," London, 1911, p. 5.

[2] Th. Reinach, article "Judæi" in "Dictionnaire des Antiquités," quoted by Fishberg, *op. cit.*, p. 188.

[3] Jacobs, *op. cit.*, p. xxx.

certainly show that mixed marriages are less fertile than pure ones, as will be seen from the following figures for Bavaria:[1]

Period.	*Number of Children per Marriage.*		
	Pure Christian.	*Pure Jewish.*	*Mixed.*
1876-1900 ..	2·64	3·54	1·58
1902 ..	4·40	2·20	1·38
1903 ..	4·31	2·31	2·11
1905-1906 ..	4·11	2·24	1·37

But such figures afford no safe criterion regarding the fecundity of intermarriages, since they are calculated by dividing the number of births in a given year or short period of years by the number of marriages contracted during the same short periods. This is a fallacious method, because the vast majority of births during any one year are due to marriages contracted in the previous twenty-five years, and, as the number of mixed marriages is continually increasing, it is obvious that the births of the year considered are really due to a considerably smaller number of mixed marriages than are recorded for that year.

Thus Fishberg quotes Ruppin to illustrate the fallacy of this method:

In 1901 there were in Prussia only 1·58 births to each mixed marriage contracted during that year, as against 2·8 to each Jewish marriage. But, as the majority of these births are the results of marriages of about twenty-five years, we are led to investigate further. In 1876 there were only 256 mixed marriages in Prussia, whilst in 1901 they reached 455. If we therefore cal-

[1] J. Thon, quoted by Fishberg.

culate on the average for the last twenty-five years, Ruppin shows that there are 2·3 to 2·5 births to each mixed marriage, as against 2·9 to each Jewish marriage, a difference which, as Fishberg says, is not very considerable. But Ruppin is of opinion that "nevertheless it is probable that childlessness is more common in intermarriages than in pure marriages,"[1] and he even ventures to explain this more frequent sterility on biological grounds. "Just as certain differing zoological species," says he, "cannot be crossed,[2] so it is possible that, to an extent, difference of race is responsible for sterility. Another reason for their relative infecundity is the fact that the contracting parties of such marriages are relatively old."

Taking it for granted that mixed marriages are less fertile than pure ones, Jacobs calculated that, even if 10 per cent. of all Jews married outside their faith, only a little over 2 per cent. of the original 10 per cent. would be left within six generations, or 200 years. In other words, the Jewish race automatically rids itself of all foreign blood, and remains constantly pure in spite of intermarriage.

4. **Alleged Prepotency of Jewish Blood.**—Jacobs is of opinion that Jewish blood is prepotent to such an extent that the offspring of mixed marriages will preserve the racial characteristics of the Jewish parent. But recent investigation has shown the opposite to be the case. Measurements taken of the second and third generations of American immigrant Jews show a natural elimination of the darker, shorter, and brachycephalic types, and a

[1] "The Jews of To-Day," London, 1914, p. 174.

[2] Compare the Talmudic saying that "the mule is sterile because it is a hybrid" (Bechoroth 7*b*).

dominance of the fair-complexioned, taller, and dolichocephalic type.[1] Moreover, as we have already seen in Chapter III., Salaman, as the result of the investigation of intermarriages between Jews and Gentiles, as well as between hybrids and Jews or Gentiles respectively, has come to the conclusion that the Jewish type of face is a *recessive* character which is subject to the Mendelian law of heredity. Salaman is of opinion that this fact throws some light on the question of purity or otherwise of the Jews. The Jewish features are recessive to the Northern European (including Teutonic), to the Italian, to the native Indian, to the Chinaman, and to the Negro. If, then, the Jew had freely intermarried with European races, it is obvious that the recessive Jewish facial characteristics would have been rapidly swamped, as has been the case, for instance, with the Falashas in Abyssinia, the Beni Israel in India, and with the Chinese Jews. But the very reverse is the case. The present Jewish features are the same as those depicted in Assyrian sculptures of 800 B.C., or on Memphis terra-cotta heads of 500 B.C., or in caricatures of Essex Forest Roll, A.D. 1277, and of Samaritans who have been living in an undoubted state of purity (who, by the way, are dolichocephalic).

There is one interesting fact which at first sight seems to militate against Salaman's conclusions regarding the racial purity of Jews. The researches of Hurst, Davenport, and others,[2] have shown that eye colour is a Mendelian character, and that blue is recessive to the dominant brown. We should therefore expect that a

[1] Fishberg, *op. cit.*, pp. 220, 221.

[2] See C. C. Hurst, "Mendelian Heredity in Man," *Eugenics Review*, April, 1912.

dark-eyed people that has not intermarried to any considerable extent should have a very small proportion, if any, of blue-eyed population; but figures collected all over the world in the case of adults, and by Virchow and Schimmer in the case of German and Austrian Jewish school-children respectively, reveal a proportion of about 46 per cent. of Jewish children with blue eyes.[1]

This contradiction is, however, more apparent than real for two reasons: (1) What the Mendelian now means by "blue eyes" and what the ethnologist has classified as a blue eye are different things. The great majority of the latter's blue eyes are merely impure dominants. (2) Although it is possible that the majority of the Jews were a dark-eyed people, yet it is practically certain, says Salaman,[2] that there was a light-haired pseudo-Gentile type — very possibly a Cretan, and the blue eye may come from these.

Evidence in favour of the purity of type is, according to Salaman, also available from Cohanim, who are the traditional descendants of the tribe of Aaron. All Jews of the name of Cohen, or some modification of it, are most probably such descendants. But people may be Cohanim without possessing the name of Cohen. (No one, says Salaman very reasonably, who has no right to the title of Cohen by birth would assume the name, because it conveys no social distinction or advantage, but, on the contrary, is accompanied by considerable disadvantages—*e.g.*, marrying a proselyte or the daughter of a proselyte or a divorcée, etc.) Now, examination of physiognomies of Cohanim does not reveal

[1] R. Virchow, *Arch. f. Anthropol.*, vol. xvi., pp. 275-475, 1886; and G. A. Schimmer, *Mitt. d. Anthropol. Ges.*, Wien, 1884.

[2] In a private letter to the author.

any difference in type amongst them from that of other Jews. Hence the conclusion is to be drawn that whatever value may be ascribed to the purity of descent of Cohanim during the last 2,000 years must also be ascribed to their brethren amongst whom they live.

It is to be noted, however, that the purity of descent of the Cohanim is not only disputed by historians, but is greatly doubted even by orthodox casuists. As early as the fourteenth century Isaac ben Sheshet made a distinction between the real Cohanim whose descent could be traced from Aaron the High Priest, and others whose claim to the title could only be assumed. The same position was taken up in the sixteenth century by Samuel de Medina, and later by Solomon Loria, who says that during the long exile of the Jews it is almost certain that both Cohanim and Levites have failed to maintain the purity of their blood.[1]

On the other hand, Egyptian monuments afford, according to Sayce,[2] proof of the mixed character of the Jewish population. The names of Jewish towns captured by the Egyptian King Shishak, recorded on the walls of the Temple of Karnak, are each surrounded with the head and shoulders of a prisoner, which Flinders Petrie has shown to be Amorite, and not Jewish, in type. This is evidence to the effect that the Jewish type was so scantily represented as to be passed over by the Egyptian artist.

The exact origin of the Amorites is a question of some interest. According to the school of Houston Chamberlain and others, the Amorites were of Germanic

[1] Yam Shel Sh'lomo (the Marshal) to Baba Kama, v. 35, quoted by Löw, *op. cit.*, p. 114.

[2] A. H. Sayce, *op. cit.*

origin, and through them King David had some German blood in his veins. This Pan-Germanic school goes as far as to suggest that whatever good qualities the Jews possess they owe to the admixture in them of German blood through the fair-haired Amorites. Salaman's interesting observations, however, seem to prove definitely that if, as is more than probable, the fair features found amongst Jews are derived originally from Amorites, then the Amorites were not Germanic. For, whereas the German or Teutonic type is a dominant Mendelian character, Salaman, from an examination of the offspring of marriages between such non-Jewish-looking Jews and Jews who have a definitely pronounced cast of features, ascertained that this non-Jewish type found among them is recessive to the typically Jewish (since all the children were typically Jewish). Hence, whatever the origin of this non-Jewish type may be, whether it is Amoritic or not, "it is at least quite certain that it cannot be Teutonic in origin."[1]

Another interesting point is the question of the alleged greater purity of descent of the Sephardim (see p. 43). Salaman found that in marriages between typical *Sephardic* and *Ashkenazic* Jews, the physiognomy of the former is dominant, showing that not only is their claim of greater purity unjustified, but that on the contrary during the last 1800 years "the Ashkenazim can show a far cleaner bill than the Sephardim, who are known to have absorbed in no small quantity both Moorish and Iberian blood."[2]

5. **The Number of Hybrid Offspring that remain within the Jewish Fold.**—Ruppin gives figures to show that only about 20 per cent. of the children of mixed marriages

[1] Salaman, *l. c.*, pp. 287-289. [2] *Ibid.*, p. 276.

remain in the Jewish community by the parents' wish, and he concludes that "at least one-half of these fall away from Judaism as they grow up. Thus, only about 10 per cent. remain definitely Jews and marry in the Jewish community."[1] These figures do not, however, take into account the illegitimate Jewish children, of whom about half have Christian fathers. According to Ruppin, the number of legitimate and illegitimate hybrid children born yearly into Jewish families in Prussia is about 3·7 per cent. of the pure Jewish births, a proportion which, as he remarks, "must in the course of time considerably modify the race character of the Jews."[2] It is, however, worthy of note that the infantile mortality of illegitimate Jewish children is so very high that the infiltration of Christian blood from that source can as yet have had hardly any visible effect on the racial purity of the Jews.

Résumé.—Summarizing the evidence for and against the purity of descent of the Jewish child, we may classify the conflicting arguments as follows:

Arguments Against.	*Arguments in Favour.*
1. Intermarriage in Biblical and Talmudical times.	1. These marriages were small in number, and were contracted with cognate tribes.
2. Wholesale conversion to Judaism in the Middle Ages—*e.g.*, the Chozars.	2. These converts became separate communities which did not intermingle with the general Jewish population.
3. Marked differences in type—*e.g.*, complexion and head form—of contemporary Jews.	3. These differences are not racial, but are produced by social and political environment.

[1] A. Ruppin, *op. cit.*, pp. 175-178.

[2] *Ibid.*, p. 180.

The following additional arguments seem to determine the balance in favour of the view that *the Jewish race has remained practically pure:*

4. The Jewish face, being, as alleged, a recessive Mendelian character, would have been entirely swamped if intermarriage had taken place to any considerable extent.

5. Cohanim, who are not allowed to marry proselytes, possess the same type of face as the rest of the Jews. We know, however, that in the time of Ezra even the priests intermarried (see p. 8), and, further, that Cohanim may marry descendants of proselytes.

6. Mixed marriages are comparatively infertile, and the bulk of such offspring leave the Jewish community.

The sum total of the arguments is that, whilst there seems to be very little doubt that the Jews are not a pure Semitic race, their ancient ancestors having freely intermarried with non-Semitic Amorites, Hittites, etc., there is some preponderating, though by no means conclusive evidence that there has been no further appreciable admixture of foreign blood in their veins since then.

PART II

ANTE-NATAL CONSIDERATIONS

CHAPTER VII

PREGNANCY

"A nulliparous woman who wishes to know whether the fault lies with her should wrap herself up and sit over smoke. If the smoke will go through her body and reach her nostrils, the fault of her sterility does not lie with her" (Hippocrates, De nat. mul. v., ch. 59).

Physiology of Pregnancy.

THE Talmud and Midrash refer to the wonders of pregnancy in the following words: "If an unstoppered bottle of wine were inverted, its contents would be emptied; and yet the child lies in the womb, whose mouth points downwards, but God preserves it and keeps watch over it so that it may not fall out." Again, "Inside an animal the uterus lies horizontally, but in a woman it lies vertically, and yet the child does not fall out and die."[1]

The amenorrhœa of pregnancy, the exact explanation of which is still unknown, was believed to be due to the fact that the blood is transformed into milk.[2] Others, however, were of opinion that the milk does not begin to be formed before the third month.[3] This theory of the

[1] Nidah 31*a*, Lev. R. xiv. 3, and Midrash, Ps. ciii. 6.
[2] Nidah 9*a*.
[3] J. Sotah iv., and Kethuboth 60*b*.

transformation of menstrual blood into milk was believed in by Aristotle[1] and Galen,[2] as well as by Arabian physicians. Indeed, Avicenna taught that there was a direct venous communication between the uterus and the breasts, and on this theory some primitive nations forbid intercourse during lactation, lest the child swallow semen together with the milk.[3]

Circumstances Favourable to Conception.

1. Mere insemination was by some people believed not to be sufficient for impregnation; the occurrence of an orgasm was considered to be necessary,[4] and hence hypospadiacs and epispadiacs as well as spermatorrhoics are impotent.[5]

Such statements are, however, in direct contradiction to the theory held by Ben Zoma, that fecundation can take place *absque consuetudine viri.* Thus, it was believed that there was a possibility of conception occurring in a bath *in quo spermatizaverat homo*;[6] and Ben Sira was said to have been the son of a daughter of Jeremiah who became enceinte from her father in that way. R. Zera and R. Poppa were also said to have been conceived in such a manner. J. L. Benzew, in his Introduction to Ben Sira, disproves these allegations, but those who believe in such a possibility may explain the immaculate conception of Mary in a similar way. Indeed, the Rabbi who expressed himself as a believer in such an occurrence was Simon ben Zoma, a sage of the second century A.D., who devoted a good deal of his time to metaphysical problems, and whose mind

[1] Hist. Anim. vii. 3, 21. [2] De Sanit. tuend. I. viii.
[3] Ellis, quoted by J. Preuss, *op. cit.*, p. 470.
[4] Nidah 43*a*. [5] Yebamoth 75*b*. [6] Chagiga 15*a*.

gave way in consequence. The question that was asked of him, probably sarcastically, was whether the High Priest, who may only marry a virgin, was allowed to marry a pregnant virgin. Ben Zoma answered the question in the affirmative, because, said he, conception was possible in a bath in which a man had just before washed himself.[1]

This theory was still in vogue even among physicians of the twelfth century. Averroës, an Arabian physician who died in 1198, records that an acquaintance of his, whose *bona fides* was beyond dispute, stated on her oath that "impregnata fuerat subito in balneo lavelli aquæ calidæ, in quo spermatizaverunt mali homines cum essent balneati in illo balneo." Another author explains the possibility of such an occurrence as follows: "Quia vulva trahit sperma propter suam propriam virtutem."

In the sixteenth century we find the Portuguese Amatus Lusitanus (1550) making use of the same theory to explain the delivery of a mole by a nun; and, according to Stern,[2] this belief is prevalent in Turkey even at the present day.[3] The Rabbis of the Middle Ages also believed in such a possibility. Even as late as the beginning of the eighteenth century this belief prevailed, and R. Juda Rozanes, Rabbi of Constantinople, who, on the authority of Maimonides, considered such an occurrence improbable,[4] was reprimanded by Azulai.[5]

2. According to R. Eliezer, no woman becomes pregnant as the result of a first intercourse.[6] The only

[1] Chagiga 14*b* and 15*a*.

[2] "Medizin, Aberglaube u. Geschlechtsleben in d. Türkei," Berlin, 1903, ii. 289.

[3] See Preuss, "Bibl. talm. Medizin," pp. 541, 542.

[4] Mishne L'Melech, Ishuth xv. 4.

[5] Birke Joseph, Eben Haëzer xiv. 10.

[6] Yebam. 34*a*.

exceptions, according to legend, are Tamar,[1] Hagar, and the daughters of Lot.[2]

3. Period of Most Favourable Impregnation.—According to a Talmudical statement, the most favourable time for conception is some time near the menstrual period,[3] although it is not clear whether a past or an approaching period is meant. The Biblical law, however, forbids all marital relations for seven days from the end of a menstrual period,[4] and modern investigation seems to favour the view that this is the most favourable time for impregnation. In cases of single coitus it has been found that the duration of pregnancy was 272 days from that date, but it is also known that the duration of pregnancy is 278 days as counted from the end of the last menstrual period, and therefore the fruitful coitus probably takes place about six days from the end of menstruation.[5]

Prevention of Conception.

Prevention of conception was not allowed except in the three following cases: (1) Girls under twelve years of age, in whom labour might be fatal; (2) women who are already pregnant, from the supposed danger of superfœtation (*q.v.*); (3) nursing women.[6] Er is said to have practised prevention in order that Tamar might not lose her beauty through pregnancy.[7]

[1] Yebam. 34*a*. [2] Gen. R. xiv. 4 and xlix. 8.
[3] Nidah 31*b* and Sotah 27*a*.
[4] Lev. xv. 28.
[5] A. L. Galabin and G. Blacker, "The Practice of Midwifery," London, 1910, p. 63.
[6] Yebamoth 12*b*, 34*b*, and 69*b*, and Kethuboth 34*a*.
[7] Yebamoth 34*b*.

Signs and Symptoms of Pregnancy.

1. The first symptom is **Amenorrhœa.**[1] But this was not by any means considered diagnostic, for the following reasons:

(*a*) Pregnancy may occur without amenorrhœa.[2]

(*b*) Pregnancy may occur before the establishment of menstruation—*e.g.*, Justinia, the daughter of Assiurus, the son of Antoninus, told Rabbi that she married at six years, and gave birth to a child at seven years of age,[3] thus disproving his statement that pregnancy is impossible before the age of twelve years; and Bathsheba, David's wife, was a mother when six years old.[4] Such early motherhood is said to occur even nowadays in the Orient. Child marriages were, however, discouraged; at any rate, pregnancy was in those cases prevented.[5] Contemporary Greek writers like Soran and Ætius denied the possibility of pregnancy before the establishment of menstruation.[6] In this they were, of course, quite wrong.

(*c*) Pregnancy might occur after the menopause—*e.g.*, in the case of Sarah;[7] and Yochebed, the mother of Moses, was said to have got married at the age of 130.[8]

According to a legend, when Isaac was weaned, Abraham made a feast and invited many people to take part in his joy. But the guests ridiculed the festivities, and said: "The old couple" (for Abraham was then 100 and Sarah 90 years old) "have adopted a foundling, and claim it as their son." What did Abraham do? He invited the chiefs of the land with their wives and babies, and Sarah gave all the infants to suck. The

[1] Nidah 9*a*. [2] *Ibid.*, 10*b*. [3] *Ibid.*, 45*a*. [4] Sanhedrin 69*b*.
[5] Yebamoth 12*b*. [6] See Preuss, *op. cit.*, p. 441.
[7] Gen. xviii. 11. [8] Baba Bathra 119*b*.

incredulous people were then satisfied that Sarah was the mother, but insinuated that such an old man as Abraham could not have been the father, when God made the face of Isaac to resemble that of Abraham, and all the people at once became convinced.[1]

Within recent times authentic cases of pregnancy in old women have been recorded. Eden mentions a case in a woman fifty-nine years old, who had her menopause nine years previously.[2]

The prospect of pregnancy late in life was, however, considered exceedingly remote; sixty years was given as the limit for a multipara, and forty as that for a primipara.[3] (See R. Chisda's statement on p. 37.)

2. **Longings** were another sign of pregnancy. These were believed to originate from the fœtus (in other words, it was considered a toxæmia of pregnancy), and hence, if they were for something which was ritually forbidden, they were taken as a bad sign for the future career of the child.[4]

According to legend, whenever Rebekah passed a heathen temple she had a desire to enter it, because Esau began to move about inside her; and when she passed a sacred place of worship she had the same longing because of Jacob's movements.[5]

Longings must be satisfied, even if they are for any special kind of food, such as pork, which is otherwise strictly forbidden, and even if it happens to be on such a strict fast as the Day of Atonement.[6]

[1] Baba Metzia 87.

[2] T. W. Eden, "A Manual of Midwifery," 3rd edit., London, 1911, p. 73.

[3] Baba Bathra 119*a*.

[4] Yoma 82*b* and 83*a* and Jer. Chagiga ii. 6.

[5] Gen. R. lxiii. 6.

[6] Yoma 82*a*.

Treatment of Longings by Suggestion.—It is narrated that a woman had a longing for food on the Day of Atonement, and her friends came to Rabbi to inquire what to do. He advised that somebody should whisper into the woman's ear that it was the Day of Atonement. This was done, and the longing disappeared. She then gave birth to a son, who afterwards became the great Rabbi R. Jochanan. Hence, says the Talmud, the saying in Jeremiah (i. 5): "Before I formed thee in the belly I knew thee."[1]

3. Among the other signs of pregnancy were **Fœtal Movements.**[2] The New Testament records that when Elisabeth (who was pregnant with John) heard the salutations of Mary (who was pregnant with Jesus) her babe leaped in her womb for joy.[3] When these movements first occurred is not stated either in the Bible or the Talmud, but according to Hippocrates (quoted by Dr. Schapiro) quickening first occurs, in the case of a boy, at three months, and in the case of a girl at four months.[4] According to Aristotle, quoted by the same authority, the movements commence still earlier—on the fortieth day, on the right side of the abdomen, in the case of a boy, and on the ninetieth day, on the left side of the abdomen, in the case of a girl.

4. During pregnancy a woman becomes uglier,[5] and her head and limbs become heavy.[6] Only pious women are free from the curse that God gave to Eve (see Gen. iii. 16).[7]

[1] Yoma 82*a*.

[2] Gen. xxv. 22, 23.

[3] St. Luke i. 41, 44.

[4] D. Schapiro, "Obstétrique des Anciens Hébreux," Paris, 1904, p. 87.

[5] Cant. R. ii. 14.

[6] Nidah 10*b*.

[7] Sotah 12*b*.

It is also said that God made the matriarchs sterile in order that they might preserve their beautiful figures and retain their husbands' affection.[1]

5. That pregnancy increases the weight of a woman was well known. The Talmudic legislators laid down the law that a beast of burden that was hired to carry a man must not be used for carrying a woman. If, however, it was hired to carry a woman, it might not only be used to carry a man, but it might be utilized for the purpose of carrying even a pregnant woman. The owner cannot claim any extra pay for the extra weight of the fœtus because mother and fœtus are one body.[2]

Diagnosis of Pregnancy.

Pregnancy could not be diagnosed with certainty before three months, and hence a divorcée or a widow was not allowed to remarry before the expiration of three months from the date of her divorce or her husband's death, in order that one might be able to establish the paternity of the next child.[3] After the third month pregnancy could be diagnosed with such certainty that Tamar was actually condemned to be burned on the strength of such diagnosis.[4]

An interesting diagnostic test was "the woman's walk" method, which, as Rashi explains, was carried out as follows: The woman was allowed to walk on soft clay, and from the depth of the footprints her condition was ascertained, those of a woman with child being deeper on account of the weight of the fœtus.[5] Rami

[1] Cant. R. ii. 14 and Yebamoth 34*b*.
[2] Baba Metzia 79*b*.
[3] Yebamoth 42*a*.
[4] Gen. xxxviii. 24.
[5] Yebamoth 42*a*; see Rashi, *in loco*.

bar Chami, however, did not place much reliance on this test, because a widow who desired to make her child the legal heir of her new husband might "disguise her walk."[1]

It is probable that the Jews had some more certain means of diagnosing pregnancy, but what they were is not mentioned; but R. Saphra says that it is not permissible to examine a married woman, as this would profane her in the eyes of her husband.[2] This would seem to indicate that the examination involved exposure of either her breasts or her abdomen, or possibly internal examination. (For the ballottement sign, see p. 125.)

The diagnosis of pregnancy in later months, "when," as the Rabbis characteristically put it, "the belly is between her teeth," is of course very easy.[3]

Diagnosis of the Sex of Fœtus.

Difference in sex ought to make itself known during pregnancy by means of the following signs: With a male child quickening occurs earlier (compare the views of Hippocrates and Aristotle, p. 103), and parturition is easier.[4] (Compare Pliny, who says: "Melior color, marem ferente, et facilior partus; motus in utero quadragesimo die; contraria omnia in altero sexu . . . primus autem nonagesimo die motus."[5]

Multiple Pregnancy.

Twin pregnancy was probably diagnosed or suspected from the violence of the fœtal movements and from the

[1] Yebamoth 42*a*; see Rashi, *in loco*. [2] *Ibid.*
[3] Kethuboth 16*a* and Rosh Hashanah 25*a*.
[4] Nidah 31*a*. [5] Pliny, "Hist. Nat.," I. vii., ch. v. 1.

size of the abdomen.[1] Sextuplets are mentioned in the case of Chamoth, the wife of Obed-Edom. The same is said to have been the case with each of her daughters-in-law,[2] thus showing that multiple pregnancy was hereditary and that sons inherit that tendency.[3] Aristotle gives five as the maximum, and according to Pliny Egyptian women gave birth to sextuplets.[4]

Duration of Pregnancy.

The normal length of pregnancy from the date of the first intercourse is 271 to 273 days, according to the Babylonian physician Mar Samuel,[5] or 274 days according to the Palestinian School.[6] This corresponds exactly with the modern experience of 278 to 280 days from the last days of menstruation, since, as we have seen, the Jewish law forbids any marital relations until the seventh day after cessation of menstruation. The variation in length between 271 and 273 or 274 days is accounted for by the fact that the semen may, as they believed, remain alive inside the uterus for three days (but not longer) without its fertilizing an ovum.[7] In this, Jewish science was nearer the truth than that of Hippocrates,[8] who believed that conception takes place immediately or not at all; and not so near the truth as that of Aristotle,[9] who was of opinion that the semen may remain alive inside the uterus for seven days without fertilization

[1] See Gen. xxv. 22, 23.
[2] Berachoth 63*b*.
[3] See J. Oliver, "Hereditary Tendency of Twinning," *Eugenics Review*, vol. iv., 1912, p. 39.
[4] Quoted by Schapiro, *op. cit.*
[5] Nidah 38*a*.
[6] Jer. Yebamoth iv. 1.
[7] Sabbath 86*a*.
[8] Quoted by Schapiro, *op. cit.*, p. 69.
[9] *Ibid.* and Preuss, *op. cit.*, p. 444.

taking place. It is now known that, although the spermatozoa reach the Fallopian tube (where fertilization generally occurs) in not more than twenty-four hours, yet it is possible for them to lie in wait for the ovum for a very considerable period, since living spermatozoa have been found in a human Fallopian tube removed three and a half weeks after the last act of sexual intercourse.[1]

It is interesting to note that the numerical value of the letters composing the Hebrew word for pregnancy, *heroyon* (הריון), is 271, which fact has been utilized by the Rabbis as a *memoria technica* (Jer. Yebam. iv. 11 and Nidah 38*a* and *b*). Hippocrates ("De natura pueri," cap. ix.) gives the duration of pregnancy as ten months, and Aristotle gives the wide limit of seven to eleven months; so also does Pliny.[2]

Bearing in mind the normal variation in the duration of pregnancy between 271 and 273 days, the ultra-orthodox had intercourse only on Wednesdays, Thursdays, or Fridays, in order to avoid a desecration of the Sabbath that might occur if a child were born on that day.[3]

Since 273 is an exact multiple of 7, therefore 273 days from the earliest of those days, Wednesday, falls on a Tuesday, and 271 days from the same day falls on Sunday.

It is, however, to be noticed that, apart from the two authorities mentioned, most of the Rabbis in the Talmud reckoned the duration of pregnancy in months instead of days. They considered it to last nine months (lunar). The "Song of Numbers," sung on the first two evenings

[1] Eden, *op. cit.*
[2] "Hist. Nat.," vii. 5.
[3] Nidah 38*a*.

of Passover, also gives nine lunar months as the duration of pregnancy. In the seventeenth century Rabbi Moses ben Itzchak Lehmann of Poland, knowing that, according to all reliable observations, pregnancy really lasts nearly 280 days instead of nine lunar months (*i.e.*, 252), rather than acknowledge that the Talmud was wrong, concluded that with the progress of ages there has been a gradual lengthening of the gestation period.[1] A similar explanation was given centuries ago by the Tossafists to explain the discrepancy between the Talmudic statement and actual observed fact regarding the age at which a calf may begin to bear young. The Talmud stated that a calf cannot conceive before the fourth year, whilst experience has shown that it can do so in the third year.[2]

Protracted Pregnancy.—Although the above was the normal duration of pregnancy, still, it was considered on the authority of Abba of Thospia that a "child born twelve months after the departure of the woman's husband for abroad is legitimate."[3]

In the fourteenth century a certain bridegroom, Shelumiel by name, left his home the day after marriage to pursue his studies at a certain Talmudic academy, a custom which was quite common at that time, and is still not unknown in Eastern Europe. After an absence of eleven months he received news that his wife gave birth to a child. The Rabbis of the time, to appease the aggrieved husband, declared the child as his own, basing their verdict on the statement of R. Abba of

[1] Quoted by Löw, "Die Lebensalter in der Judischen Literatur," Szegedin, 1875, p. 48.

[2] Ab. Zarah 24*b*, Tossafoth. *ad loc.*; *cf*. Jore Deah 316, 3.

[3] Yebamoth 80*b*.

Thospia.[1] Since then the name Shelumiel (pronounced Shlemiel) has been used, and is still commonly used, as a term of ridicule to describe any helpless person of the Handy Andy type. Pliny[2] also recognizes eleven months as a possible period of gestation, and he mentions that Vestalia gave birth to Suilius Rufus (Consul) in the eleventh month. Hippocrates and Aristotle also speak of eleven months' children; the latter, however, speaks sceptically about them.[3]

The maximum duration of pregnancy as allowed by the Napoleonic Code is 300 days, in some parts of Switzerland 308 days, and in Prussia 302 days. It would therefore seem at first sight that the Jews were absurdly generous in their concession; but, as Preuss points out,[4] the interval between two events, one of which took place on the last day of the first month, and the other on the first day of the last month, is generally considered as twelve months, but, as the Jewish months consist alternately of twenty-nine and thirty days, such an interval of twelve months would only amount to 297 days, which is some days less than that allowed in most countries at the present time.

Diminished Period of Gestation.—Mar Samuel gives 212 days as the minimum duration of pregnancy, and a mnemonic for that is the Hebrew word *harbah* (הרבה) used in connection with the trouble of pregnancy,[5] the numerical value of whose letters amounts to 212.[6] The Prussian Code gives the minimum duration as 181 days. In order to render a child legitimate, a great Rabbi of the fifteenth century, R. Juda ha-Levi of Mainz,

[1] Quoted by Löw, *op. cit.*, p. 57.
[2] See Löw, *op. cit.*, p. 53.
[3] "Hist. Nat.," vii. 4, 23.
[4] See p. 109 above.
[5] J. Preuss, *op. cit.*, p. 444.
[6] Jer. Nidah I. 3 and Pnei Moshë, *ad loc.*

declared that a mature child may be born after five and a half months' pregnancy.[1]

Signs of Recent Delivery in a Woman.

The discovery of a placenta or of membranes is absolute evidence of recent delivery. The same applies to the presence of a Sandal (see Chapter IX.), since the latter does not exist without a child. On the other hand, absence of lochia is evidence that the woman has not been delivered recently. Compare Nidah 25 and 26.

[1] Gen. iii. 16.

CHAPTER VIII

HYGIENE OF PREGNANCY

"Behold now . . . thou shalt conceive, and bear a son. Now therefore beware, I pray thee, and drink not wine nor strong drink, and eat not any unclean thing" (Judg. xiii. 3, 4).

Care of Mother.

In Chapter II., p. 43 *et seq.*, I discussed the subject of marriage from the Jewish eugenic point of view. I have shown what a considerable amount of knowledge the Jews in the times of the Bible and of the Talmud had of the influence of *heredity* upon the physical and moral health of the child; but the other part of eugenics—viz., the influence of environment—was also not neglected. They knew that as a rule a physically and mentally healthy stock cannot be reared from parents deficient in these respects, but they were also aware that a good breed can be improved, or at any rate maintained, by great care and attention. Special precautions are mentioned in the Bible to protect a pregnant woman from injury. "If men strive, and hurt a woman with child, so that her fruit depart from her, and yet no other mischief follow: he shall be surely punished, according as the woman's husband will lay upon him; and he shall pay as the judges determine."[1] Induction of abortion is, according to Josephus,[2] to be considered as murder,

[1] Exod. xxi. 22. [2] Contra Apion ii. 24.

although the Talmud is silent on this question. A pregnant woman is to be sheltered from fright and bad news, because such are likely to bring on a miscarriage. Phineas's wife, when she was near term, on hearing that "the ark of God was taken, and that her father-in-law and her husband were dead, bowed herself and travailed, for her pains came upon her."[1] The barking of a dog will also produce miscarriage.[2] Strong odours are credited with having a bad effect in pregnancy, in that they either caused abortion or had some deleterious influence on the subsequent career of the child. The Talmud mentions as one of the miracles of the Temple that no woman aborted there from the scent of the holy flesh;[3] whilst the apostasy of the famous Elisha ben Abuya late in life was attributed to the fact that, when his mother was pregnant with him, she passed a heathen temple, the smell of the sacrifices from which, passing through her system, unfavourably affected the fœtus.[4] It is also stated that if a pregnant woman treads on donkey dung her child will suffer from skin trouble.[5] As a protection from miscarriage, pregnant women used to wear an amulet called *eben tekouma*, or stone of preservation[6] (see p. 118).

The story told in Genesis about Jacob and his flock shows that it was believed by Jews at that time that mental impressions at the moment of conception had a profound influence on the appearance as well as the character of the offspring: "Jacob took him rods of green poplar, and of the hazel and chestnut tree; and pilled white strakes in them . . . and the flocks con-

[1] 1 Sam. iv. 19.
[2] Baba Kama 83*a* and Sabbath 63*b*.
[3] Abboth v. 8.
[4] J. Chagiga ii.
[5] Kethuboth 60*b*.
[6] Sabbath 66*b*.

ceived before the rods, and brought forth cattle ring-straked, speckled, and spotted."[1]

The Talmud also tells of R. Jochanan, who was remarkably beautiful, that "he was in the habit of standing in front of the ritual bath-house, in order that the women who came there should see him and conceive good-looking children."[2]

The Midrash narrates that an Arabian King once said to R. Akiba that he suspected his consort of infidelity, because, in spite of the fact that both he and she were dark-coloured, she gave birth to a white child. But R. Akiba said that this was no absolute proof of unfaithfulness, because she might during intercourse have looked at pictures of white faces on the wall, and the King acknowledged that the pictures on his walls were those of white faces.[3] This story has by many authors been quite erroneously attributed to Hippocrates. The colour of Charidea, the white daughter of the black King and Queen of Æthiopia, is explained, in the romance of Heliodorus,[4] as due to the fact that the Queen looked at a statue of Andromeda at the time of conception. A similar tale is also referred to by Quintilian,[5] except that in that case the parents were white and the infant was black, because the picture was that of a Moor. According to Empedocles, infants resemble the statues which the mothers found pleasure in looking at during pregnancy.[6] The law of Lycurgus required Spartan pregnant women to look upon statues of Castor and Pollux, in order that they might give birth to strong and beautiful children. Dionysius of Syracuse is also said to have hung pictures

[1] Gen. xxx. 37-39; see also Aboda Zarah 24*a*. [2] Berachoth 20*a*.
[3] Num. R. ix. [4] "Æthiopica," lib. iv., c. 10.
[5] "Institutiones Oratoricæ," quoted by Ballantyne.
[6] Plutarch, "De placit. philos.," lib. v., c. 12.

of Jason in full view of his pregnant wife.[1] Galen held a similar view,[2] but Pliny, like the Talmud, speaks only of the effect of impressions received at the moment of conception.[3]

The Midrash also tells a story about a woman who saw a young man that she liked, and afterwards gave birth to a child that resembled him. It also tells of a pregnant ass in whom a veterinary surgeon cauterized a wound, and she afterwards gave birth to a donkey with a mole.[4]

According to the same source, if a woman, who is pregnant by her husband, misconducts herself with another man, the fœtus's appearance is changed to resemble that of the other man.[5] R. Kohana narrates that, in order to breed the "red heifer" for ritual purposes, they used to pass a red cup in front of the cow at the moment of conception.[6] "Rabbi Jehuda said that he who wishes to have clever children should at the time of begetting think of doing good deeds."[7]

A pregnant woman must not have a hot bath, for fear of bringing on a miscarriage.[8]

Diet.

Directions regarding the diet of an expectant mother are given both in the Bible and in the Talmud. Certain indigestible articles, and in special cases, such as when

[1] T. Fienus, "De viribus imaginationis," 1635, cited by Ballantyne, *op. cit.*, p. 107.
[2] "De theriaca ad Pisonem," quoted by Ballantyne, *op. cit.*
[3] "Natural History," Holland's translation, p. 161.
[4] Num. R. ix. 5 and 34. [5] Num. R. ix. 1.
[6] Ab. Zarah 24*a*.
[7] Kallah, R. Beraitha, x.; also see Berachoth 5*b*.
[8] See article "Birth" in Hastings' "Encyclopædia."

Manoah's wife was pregnant with Samson, who was to be dedicated to God,[1] and in the case of John the Baptist,[2] alcoholic beverages, were forbidden, because of the bad effect they would have upon the child. Strong purgatives were also prohibited for the same reason.[3] On the other hand, they were enjoined to eat light soft food, especially fine peeled barley, which was considered very good for the growth of the child.[4] Meat, fish, parsley, coriander, paradise apples, and in ordinary cases wine, are particularly recommended as giving rise to healthy, strong, and beautiful clear-eyed children.[5]

The Talmud states that a certain Queen was in the habit of eating citrons whilst she was enceinte, and the daughter that was afterwards born had such a fragrant odour that she was carried about before the King at the head of the spices.[6] This may be the origin of the custom which still prevails in Eastern Europe, for pregnant women to bite off the tip of the *ethrog* (citron) which is used, together with the *lulab* (palm branch), on the Feast of Tabernacles.

Great fatigue, such as baking bread in the middle of the day (when the sun is hot), working a handmill, and excessive drinking of strong beer, have deleterious effects upon the offspring.[7] Marital relations during the first three months of pregnancy were believed to be bad both for the mother and for the child; during the second three months they were considered beneficial for the development of the child, but bad for the health

[1] Judg. xiii. 4. [2] S. Luke i. 15.
[3] Midr. R. Cant. i. 7, quoted by Grünwald, "Hygiene der Juden," p. 204.
[4] Yoma 47*b*. [5] Kethub. 60*b*. [6] *Ibid.*, 61*a*.
[7] Yebam. 80*a* and Kethub. 60*b*.

of the mother; lastly, during the last three months they were thought to be good both for the mother and the child, because the child's birth is facilitated.[1] Aristotle holds a similar view.[2]

Religious Privileges and Legal Position of a Pregnant Woman.

Religious Privileges.—As we have already seen, the Jews in the times of the Talmud superstitiously believed that a certain kind of stone called *tekoumah* (preserving), when carried by a pregnant woman, was a safeguard against miscarriage, and women were therefore allowed to carry that stone with them even on the Sabbath,[3] when one is forbidden to carry the slightest weight. For the mineralogical identification of that stone see Preuss, "Bibl. talm. Medizin.," p. 446.[4] Further, the longings of a pregnant woman for food must, as we have seen, be satisfied even on such an exceedingly strict fast as the Day of Atonement,[5] and the dietary laws must be disregarded in her favour. If she has a special longing for pork, it must be given to her, because, says the Talmud, in such cases every commandment may be broken except those forbidding idolatry, incest, and murder.[6]

Legal Position—A. Criminal Law.—Special protection was afforded a pregnant woman against violence (see p. 113). On the other hand, if a pregnant woman was sentenced to death, opinions differed as to whether

[1] Nidah 31*a*. [2] Hist. Anim. vii., ch. 4, § 30.

[3] Sabbath 66*b*.

[4] According to some it is the eagle stone (Aetites), and according to others it is jasper.

[5] Yoma 82*a*. [6] *Ibid.*

the penalty should be carried out immediately, or should be postponed till after she had given birth to her child. According to an old law, the child was considered to be a separate being, and the woman must not, therefore, be executed till after the birth of the child; but according to a later law the fœtus was considered only a part of the mother, and must therefore share her fate.[1] If, however, she is in labour when the execution is timed to take place, the latter must be postponed until the child is born.

B. **Civil Law.**—A woman was not allowed to marry within three months of the death of her husband before submitting herself for examination to ascertain if she was pregnant, so as to make sure to which husband the future child belongs.[2]

[1] Erachin 7*a*.

[2] Yebam. 42*a*.

CHAPTER IX

EMBRYOLOGY

"Remember, I beseech Thee, that Thou hast made me as the clay; and wilt Thou bring me into dust again? Hast Thou not poured me out as milk, and curdled me like cheese? Thou hast clothed me with skin and flesh, and hast fenced me with bones and sinews. Thou hast granted me life and favour, and Thy visitation hath preserved my spirit" (Job x. 9-12).

A GOOD deal of information is scattered about in the Talmud regarding the development of the fœtus. Much of it is fanciful speculation, but a great number of facts are mentioned which were based on actual observation and accord with modern science. There were many experienced observers, among whom was Abba Saul, a grave-digger; and a certain Mar Samuel was the most celebrated embryologist of his time. King David is also stated by the Talmud[1] to have devoted a great deal of his time to kindred observations.

The uterus, says the Yalkut, is full of blood, and when fertilization takes place a white drop comes and meets the semen, and an embryo is created.[2] This is a very remarkable statement, since it makes it very probable that the sage who made it knew of the existence of the human ovum, which was only discovered by Baer as late as 1827.

Some medieval and even more modern Jewish writers, obsessed with the idea that there is no modern discovery

[1] Berachoth 4a

[2] Yalkut, Job 905; see also Lev. R. iv. 9 and Nidah 31*a*

that was not known to the Rabbis, tried to prove in some ingenious, although purely artificial, way that a scientific fact which was not mentioned by them explicitly was really implied in some of their sayings. In this way a Hebrew writer, Pinchas Elias,[1] who lived in the eighteenth century, was at some pains to show that the Talmudic Rabbis actually knew of the existence of spermatozoa, or sperm cells, which were discovered by Hamm and Leeuwenhoek in 1677. He bases his argument on the Talmudic saying that "he who abuses himself is like one who sheds blood,"[2] and reasons as follows: "Supposing somebody destroys a piece of furniture, then he is guilty of the sin of wanton destruction. But if a person destroys a piece of wood, although it is a potential article of furniture, he is yet not guilty of that sin; and, still, one who 'destroys seed,' which is only a potential human being, is like one who sheds blood." He therefore infers, not only that the Rabbis knew of the existence of the motile living spermatozoa, but also that they were aware that each spermatozoon contained within itself a minute but complete human being. In this way he ascribes also to the Rabbis an adherence to the *preformation* theory of development (see p. 123).

According to the ideas of that time, as we have already seen in Chapter VII., p. 108, conception—*i.e.*, fertilization of the female ovum by the spermatozoon—does not take place till three days after intercourse, and during that time man must pray "que la semence ne se corrompe avant d'impregner."[3] This theory, which has a germ of truth, was in direct conflict with that of Hippocrates, who believed that conception took place immedi-

[1] Sefer Ha'Berith, 1804, i. 71, col. 2.
[2] Nidah 13*a* and Kallah R. ii.
[3] Berachoth 54*a*.

ately; and is not so near the truth as that of Aristotle, which was that the semen may remain inside the uterus for seven days without impregnating the ovum.[1]

It was believed that there were parts of the embryo that were derived from each parent, and some that were contributed by God. Thus, the white portions—viz., bones, fibrous tissue (nerves and tendons), nails, brain, and white portions of the eye (sclerotic and cornea), came from the father; the pigmented portions—viz., the skin, the flesh, blood, hair, and the uveal tract of the eye—were derived from the mother; whilst God's portion consisted of the spirit, the expression, vision, hearing, movements, and intellect. When the child dies, God takes away His portion to Himself, and leaves the remainder to his parents. Rav Pappa adds: "This is the meaning of the proverb, 'Remove the salt, and the flesh becomes fit for the dogs,' which, as Rashi explains, means that the soul is the salt which preserves the body; when the former departs the latter decomposes."[2] It is interesting to compare these Talmudic ideas with the modern theory of *germinal predetermination.* Experiments on eggs of lower animals have shown that certain portions of the egg give rise to certain definite portions of the adult organism.

The primitive centre of formation of the embryo was supposed by some to be the head, whilst according to Abba Saul it was the umbilical vesicle, from which the parts of the embryo radiate in different directions.[3] Aristotle believed that the heart was the first organ to appear.[4] R. Abahu says it is a special dispensation of

[1] Quoted by Dr. D. Schapiro in his "Obstétrique des Anciens Hébreux," Paris, 1904, p. 69.

[2] Nidah 31*a*; compare also Eccles. v. 10.

[3] Yoma 85*a*.

[4] See Schapiro, *op. cit.*, p. 71.

Providence that the fœtus begins to develop from skin and flesh, and not from bones and fibrous tissue, otherwise the child would break through the womb and escape.[1] Abraham Aben Ezra speaks of the kidneys as being the first organs to appear. He compares them to the two poles about which the universe rotates.[2] Simon Duran agrees with Aristotle's view.[3]

These observations are interesting in that we find in them a dim prevision of the theory of *epigenesis*, which Caspar Friedrich Wolff showed some 2,000 years later (in 1759) to be the correct view, as opposed to the theory of *preformation*, which prevailed up to Wolff's time.

The preformation theory, as we have seen, asserted that there was no new formation of structures in embryonic development, but that every human germ cell contained within itself, in a very minute form, a complete human being, which during the course of embryological processes merely had to grow or unfold itself, in the same way as the parts of a flower unfold in the process of development. The theory of **epigenesis**, which, it is hardly necessary to say, is the one universally accepted at the present time, is that a new formation of parts occurs out of unformed material not possessing at all the characters of the adult organism.

The theory of preformation necessarily involved the further belief that the miniature organism inside the germ cell contained within itself, within still smaller limits, the individuals of the third generation, and so on *ad infinitum*; so that the ovaries of Eve or the sperm cells of Adam contained encased within one another all the human beings that were ever born or that ever will

[1] Lev. R. xiv. 9. [2] Quoted by Löw, *op. cit.*, pp. 43, 64.
[3] *Ibid.*

be born. This is called the "scatulation" or "packing" theory of development. We shall refer to it again in the next chapter.

Belief in preformation continued paramount till the end of the eighteenth century. Swammerdam[1] says that all the germs of the human race must have been present in the bodies of our first parents, and when these are exhausted there will be an end to the human race ("exhaustis his ovis humani generis finem adesse"). Malpighi[2] went as far as to assert that he actually observed the chick in the unincubated egg, and De Buffen in 1749 says: "J'ai ouvert une grande quantité d'œufs à différent temps avant et après l'incubation, et je me suis convaincu par mes yeux que le poulet existe en entier dans le milieu de la cicatricule au moment qu'il sorte du corps de la poule."[3] Even Haller, the father of physiology, was a strong believer in the preformation theory.

The appearance of a forty-days embryo was, according to R. Abahu, as follows: "Its size is that of the locust; its eyes are like two specks at some distance from each other; its two nostrils have the same appearance as a hair; sex can be distinguished, but it is impossible to differentiate between the upper and lower extremities."[4]

The embryo should not be examined in water, but in oil, and only by sunlight,[5] and a special kind of sound is described for the purpose of differentiating between the male and female sex.[6]

[1] "Miraculum naturæ sive uteri muliebris fabrica," Lugdunum Batavorum, 1679, pp. 21, 22, quoted by Jenkinson, "Experimental Embryology."

[2] "De formatione pulli in ovo," Royal Society, London, 1673, p. 4.

[3] Histoire Naturelle, Générale et Particulière, vol. ii., Paris, 1749.

[4] Nidah 25*a*. [5] *Ibid.*, 25*a* and *b*. [6] *Ibid.*, 25*b*.

According to R. Amram, the lower extremities can at that stage be distinguished as two purple threads.[1] As regards the development of the mucous membranes in the face, and the chemical nature of the secretion of its various glands, the following statement is of interest.

It is a wonderful thing, says the Midrash, that practically within a finger's breadth there are several different kinds of fluids—viz., the salt tears, the fatty cerumen of the ears, the mucoid secretion of the nose, and the sweet saliva—and yet they do not mix. The tears are salt in order that the person who is crying should be irritated by them and stop his tears; otherwise the prolonged bathing of the eyes in them would result in blindness. The secretion of the ears is waxy so as to intercept loud noises, which might injure the heart and cause death. The mucous nature of the nasal secretion intercepts smells which are dangerous to life. The salivary secretion is sweet so as to counteract the bad taste left in the mouth after vomiting.[2]

The ancient Jewish anatomists must have dissected fœtuses at different stages of development, because they knew of the centres of ossification of a number of bones.[3]

The Amniotic Sac and the Liquor Amnii.—It was known that the embryo was surrounded by water contained in a bag of membranes. R. Eliezer said that a fœtus inside the womb is like a nut placed inside a bladder of water. If you press your finger on the bladder the nut recedes.[4] (Compare the modern ballottement sign of pregnancy.)

[1] Nidah 25*b*. [2] Num. R. xviii., Tanchuma (Buber) Chookath i.
[3] Chulin 125*a*. [4] Nidah 31*a*.

As sex was formed by the fortieth day, therefore "between the third and fortieth day man must pray that the ovum develop into a male child."[1] In accordance, however, with a theory about the formation of sex (see this Chapter, p. 140),[2] prayers can only help in cases where the male and female orgasms occurred simultaneously.[3] According to Mar Samuel, however, differentiation of the sex elements did not take place before the end of the fourth month, which is in agreement with the views of modern embryologists, although it is believed now that sex is already determined in the fertilized ovum (see p. 141). He also believed that females took longer to develop than males, in accordance with the views of Aristotle[4] and Hippocrates.[5] R. Ishmael held that the male is formed on the forty-first day and the female on the eighty-first day.[6]

An interesting and very subtle dispute is recorded in the Talmud on the results of certain experiments carried out in connection with this subject. It was told to R. Ishmael that once Cleopatra, the Queen of Alexandria, condemned some of her female slaves to death. The execution was carried out forty-one days after a single experimental impregnation. At the post-mortem examination it was found that some contained male fœtuses and others contained female fœtuses. R. Ishmael's objection that the slaves in whom the female fœtuses were found might have already been forty days pregnant before the experiment began was met by the reply that an abortifacient (*samma d'naphtza*) was

[1] Berach. 60*a*. [2] *Ibid.* [3] *Ibid.*
[4] Aristotle, "De gener." iv. 9.
[5] Hippocrates, "De nat. pueri," ed. Foes, sect. iii., quoted by J. Preuss, 452. [6] Nidah iii. 7.

administered to each of the women. R. Ishmael, however, rightly insisted that there are some women in whom abortifacients are ineffective.

R. Ishmael then narrated a similar experiment made by Cleopatra, "a Queen of Greece," in the case of some of her condemned female slaves. On dissection it was found that the male fœtuses were formed forty days and the females eighty-one days after a single intercourse. His opponents objected that such fallacious observations prove nothing, since the female embryos might have been conceived forty days later in prison. R. Ishmael's answer that the mothers had been carefully watched to avoid such a possibility was met by the retort that whilst one could be quite sure of the watching, one could not be equally sure of the watchers, since "there is no means of guarding against unchastity."[1] As Juvenal says, "Quis custodiet ipsos custodes?"

Samuel was said to be able to tell the exact age of a fœtus, and the following story illustrates the confidence which he had in his theories: A fœtus was presented to him, and he declared it to be forty-one days old. It was, however, pointed out to him that the last day of the last menstrual period was only forty days previously. Samuel replied, however, that this only points to the fact that intercourse must have taken place during menstruation. On inquiry this was found to be correct.[2] The same authority also taught that it was impossible to distinguish a human embryo before the formation of hair—viz., before the fifth month of pregnancy.[3] It is, of course, now well known that in the early months of pregnancy the embryos of all vertebrate animals look alike.

[1] Nidah 30*b*. [2] *Ibid.*, 25*b*. [3] *Ibid.*, 30*b*.

As regards the organic function of the fœtus during intra-uterine life, the following quotation is of extreme interest when compared with present-day knowledge: "The fœtal mouth is closed and its umbilicus is open; it eats and drinks everything that its mother eats and drinks. . . . But as soon as it comes into the world, everything which had been closed opens, and that which was open closes; otherwise the child could not exist for a single hour."[1] The nourishment comes to the child through the umbilical cord.[2] This, with slight modifications, is in agreement with modern embryological facts. Some openings, like the ductus arteriosus, the foramen ovale of the heart, etc., close soon after birth, and their failure to close gives rise to conditions which are incompatible either with life or with the health of the child. The fœtus does not pass any motions inside the uterus; if it did it would kill its mother.[3] Between the fortieth day and the end of the third month it was believed that monstrosities were developed (this, again, is in certain respects in agreement with modern antenatal pathology),[4] and therefore it is enjoined that during that time "man must pray that the embryo should not become a *sandal*, which, as Rashi explains, means a fœtus flattened out by pressure like a fish[5]—*i.e.*, probably what is called in modern teratology a *sympodia*, which is believed to be produced by amniotic pressure."[6] The following monstrosities, among others, are also described: Cyclops, monopsia,[7] and atresia

[1] Nidah 31*b*. [2] Cant. R. vii. 3. [3] Berachoth 57*b*.

[4] See J. W. Ballantyne, "Manual of Ante-Natal Pathology," vol. ii.

[5] Berachoth 60*a* and Rashi, *in loco*.

[6] See Ballantyne, *loc. cit.* [7] Bechoroth 43*b*.

œsophagi,[1] intra-uterine amputations, spina bifida,[2] anencephaly,[3] polydactylism,[4] etc. (See also p. 201.)

Double-Headed Monsters.

Philemo once asked Rabbi, the holy: "If a man has two heads, on which is he to put the phylactery?" To which Rabbi replied: "Either get up and be off or take an anathema; for thou art making fun of me."[5] If a double-headed monster happens to be a first-born son, the price of his redemption (see p. 225) is 10 selaim—*i.e.*, double that of an ordinary child.[6]

It is narrated that a double-headed monster married a wife and had seven sons, six of whom were normal, and the seventh was double-headed. When the father died there was a dispute about the legacy. The normal sons claimed that, as there were seven brothers altogether, each was entitled to one-seventh; but the double-headed brother contended that he was equivalent to two, and that therefore the legacy was to be divided into eight equal portions, out of which he was entitled to two portions. The dispute was brought before the Court of King Solomon, who ordered that hot water should be poured on one of the heads, when the other head joined in the cry: "Sire, we are dying." This proved to the satisfaction of the Court that the monster was really one individual.[7] Avicenna records a case of Siamese twin girls in an Arabian woman. One of the twins wanted to get married, but the weaker sister was too shy and modest to consent. A judge overruled her objection, and ordered the stronger one to be married.

[1] Nidah 23*b* and 24*a* and *b*.
[2] Bechoroth 43*b*.
[3] Nidah 24*a*.
[4] 2 Sam. xxi. 20.
[5] Menachoth 37*a*.
[6] *Ibid.*
[7] Beth Hamidrash.

It did not take long before the weaker one died of shame, and very soon after the stronger one died from septicæmia due to putrefaction of the dead sister.[1]

Hermaphroditism.

The following abnormalities are described and minutely discussed:

(*a*) Androginos, an hermaphrodite in whom both the male and female organs of generation are seen externally.[2] According to the Midrash, Adam was an adroginos.[3]

(*b*) Tumtum, an hermaphrodite in whom neither of the organs of generation can be seen except by dissection.[4]

It is recorded that many androginoses first married husbands and gave birth to children, and then married wives and had children.[5] Pliny speaks of an androginos as being "utriusque naturæ, inter se vicibus coeuntes."[6]

According to Maimonides, such a person ought not to give levirate or *chalitzah*.[7] Such a child must be circumcised on the eighth day, but no benediction is to be recited. And if the eighth day happens to be Sabbath-day, the ceremony is to be postponed.

Note.—True hermaphroditism, though existing in the vegetable world (*e.g.*, the first twenty classes of the Linnæan system of plants), and also existing in some lower animals, such as molluscs and certain worms, is never found in higher animals, especially man. (The whole hermaphrodite idea was probably purely Greek mythology.)

1 Quoted by Dr. Tobia Katz, Maase Tobia, p. 69*a*, cols. 1 and 2.
2 Boraitha, at end of Bikurin.
3 Gen. R. v. 1.
4 Chagiga, 4*a*, Rashi; Yebam. 71*b*; Baba Bathra 126.
5 Maase Tobia iv. 5.
6 "Hist. Nat.," vii., ch. ii. 7.
7 Hilchoth Yibum vi. 2.

What is now known as hermaphroditism occurs in individuals whose external genital appearances do not

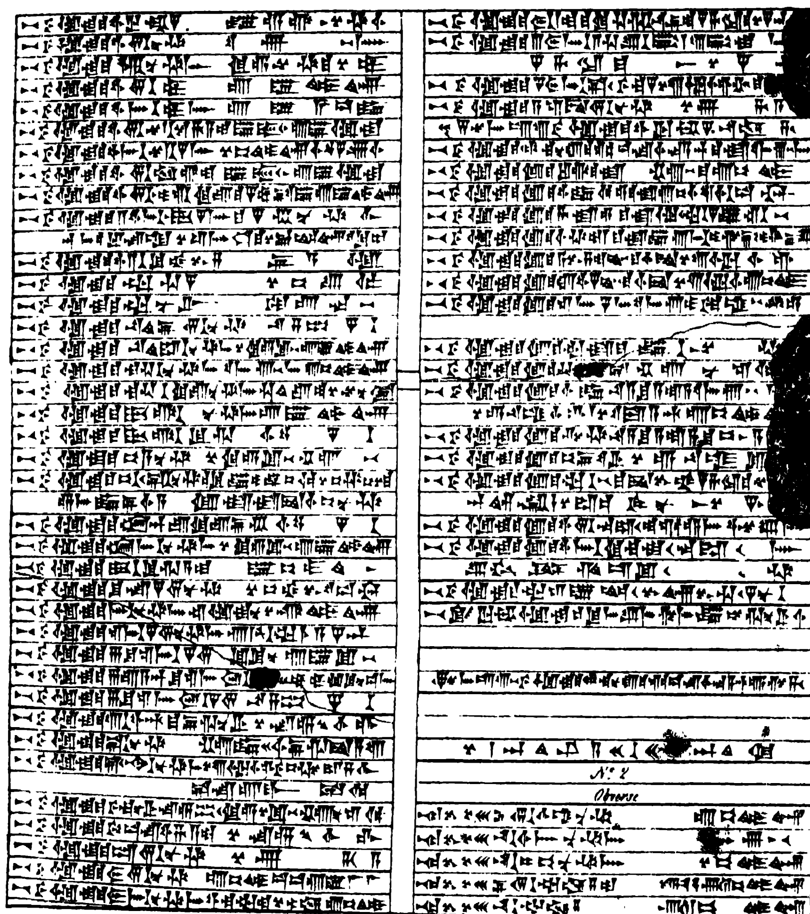


FIG. 1.—PHOTOGRAPH OF A CHALDEAN TERATOLOGICAL TABLET OVER 4,000 YEARS OLD.

(Kindly lent to the Author by Dr. J. W. Ballantyne.)

decide the sex, but whose sex can be definitely established by thorough examination.

Teratology, or the Mode of Production of Monstrosities.

In earliest times, the Chaldeans believed that monsters were made by God for the purpose of warning mankind. Indeed, from a cuneiform tablet, which formed part of the royal library at Nineveh, and which is now stored in the British Museum, it is evident that the Chaldeans claimed to be able to foretell what was going to happen from the nature of the monstrosity that was born (teratoscopy). The tablet, which is at least 4,000 years old, and possibly nearly 6,000 years of age, gives a list of sixty-two monstrosities or defects in babies, and the presages or omens they betoken. The following are a few (see Fig. 1):

1. If the infant has no ears, there will be mourning in the country.

2. If the infant has the heart open (exocardia), the country will suffer calamity.

3. An infant with three legs is an omen of great prosperity in the land.[1]

It is probable that this idea is still wrapt up etymologically in the word "monster," which possibly contains the root *moneo*, I warn.

The same tablet also speaks of a ewe giving birth to a lion, suggesting hybridity as a cause of monster birth.

The ancient Egyptians believed that monsters were produced as the result of a cross between a woman and a beast. Geoffrey Saint-Hilaire discovered an anencephalic human monster, preserved as a mummy at

[1] J. Oppert, "Tablettes Assyriennes," *Journal Asiatique*, 6th series, vol. xviii., Nos. 67, 187, quoted by J. W. Ballantyne in "Teratologia," vol. i., p. 127, London, 1894.

Hermopolis, which was regarded as a hybrid between a woman and monkey.[1]

Hybridity as a Cause of Teratogenesis, which is mentioned in the Yalkut,[2] was still believed in till the beginning of the eighteenth century. At that time, however, this theory began to be abandoned, and the ancient view was accepted, that animals could conceive only from those of the same species, and whose durations of pregnancy are alike. The Talmud states that cross-fertilization is possible only between two species of animals whose mode of sexual congress is the same, and whose periods of gestation are of equal length, but that it was not possible between animals of different species (*e.g.*, cattle and sheep or cattle and wild beasts), although R. Eliezer held that a wild beast can conceive from an ox.[3] It was also known that such hybrid animals are themselves sterile.[4] Aristotle held an exactly similar view—*i.e.*, that animals could only conceive from those of the same size, and whose period of gestation was approximately of equal length.[5]

Mental Impressions as a Cause of Monster Births.—We have seen (Chapter III.) that, according to the Bible, Talmud, and later Jewish writings, mental impressions of the mother were believed to have a profound influence on the development of the child. According to the Midrash, such impressions were also responsible for the production of monstrosities.[6] Such a view was also held

[1] See J. W. Ballantyne, "Ante-Natal Pathology," vol. ii.

[2] See A. Hyman, "Beth Vaad Lachachamim," London, 1902, p. 153, col. 2, quotation 11.

[3] Bechoroth 5*a*; also Baba Kama 78*a*.

[4] Bechoroth 7*b*.

[5] "De Generat. Anim.," lib. ii., c. 12.

[6] Tanchuma, section Nasso, edit. Bober, Wilna, 1885.

by Soranus of Ephesus, who spoke of ape-like children born to women who had looked at monkeys at the time of conception.[1]

Heredity as a cause of monstrous birth is suggested in the story about a double-headed monster who begat a similar monster (see p. 129).

Other Supposed Teratogenic Causes were—

(*a*) *Abnormal or unnatural positions of the parents during intercourse—e.g.*, coitus on the ground will produce an infant with a long neck.[2]

(*b*) *Intercourse during menstruation.*[3]

(*c*) *The nature of the mother's diet during pregnancy—e.g.*, excess of eggs will cause the infant to have abnormally big eyes;[4] excess of small fish will produce an infant with nystagmus.[5]

(*d*) *Fatigue of the mother during pregnancy.* (See Chapter VIII., p. 117.)

(*e*) *Mechanical Causes.*—A monstrosity called a *sandal*, which corresponds to what modern teratology calls a " sympodia," was believed by the Rabbis to be caused by pressure inside the uterus.[6] This theory was also held by Hippocrates, and Aristotle attributed the production of monstrous chicks to similar pressure causes.[7] Although the cause of the production of a sympodia is not as yet definitely settled, yet the evidence is in favour of its being the result of amniotic pressure.[8] Fairly recent experiments by Dareste and others have shown that, in the case of the chick, non-development of the amnion very often exists together with various monstrosities.

[1] Quoted by Ballantyne, *op. cit.*
[2] Kethuboth 60*a*.
[3] Esdras, book iv., ch. v., ver. 8.
[4] Kethuboth 61*a*.
[5] *Ibid.*
[6] Berachoth 60*a* and Rashi, *ad loc.*
[7] " Generation of Animals," lib. iv.
[8] See Ballantyne, *op. cit.*

The view of Pliny, that Nature creates monstrosities with the object of astonishing us and amusing herself ("Ludibria sibi, miracula nobis ingeniosa facit Natura"[1]), is, as far as the author is aware, not found in Jewish literature. This view is still reflected in the words "freak of Nature" and in the botanical term "sport."

Between the third and sixth months man must pray that there should be no abortion, and between the sixth and ninth months that it should be born in peace.[2]

The Talmud also describes the characters of a fœtus at eight months, which are, however, not in accordance with modern knowledge.[3]

Attitude of Fœtus inside the Uterus.

The Talmudic description of the fœtal attitude (in a position of complete flexion—head, arms, legs, and fingers flexed) is so accurate[4] that one may believe that R. Simla, who gives it, had an opportunity of making a post-mortem examination of a gravid uterus at full term.

The Talmudic sages had, however, a mistaken idea that during the first three months the embryo lies in the lowest part of the uterus, during the second three months in the middle part, and during the last three months in the upper part, and when labour sets in the fœtus "turns round and comes out." This, they thought, was the cause of the labour pain.[5] Hippocrates ex-

[1] "Hist. Nat.," book iv., ch. [illegible]

[2] Berach., *loc. cit.*

[3] See Yebam. 80*b*.

[4] Nidah 30*b*.

[5] *Ibid.*, 31*a*.

pressed the view that till the seventh month the fœtus lies in a breech presentation; afterwards it turns into a vertex presentation.

Superfecundation and Superfœtation.

Superfecundation (or the successive impregnation by different fathers at different dates, within the range of one menstrual period).—It is possible for a child literally to have two fathers, if two separate intercourses took place within three days of each other (since the semen may remain three days without fertilizing).[1] This is not in accordance with the views of modern embryology, which teaches that an ovum can be fertilized by only one spermatozoon. It is, however, known that two ova from the same period of ovulation may be fertilized during two consecutive connections, even by two different men, as has been proved by the fact that twin children of different colours (one white, the other negro) have been born.[2]

Superfœtation (or the impregnation of a second ovum from a subsequent ovulation after pregnancy had already occurred from a former ovulation).—According to the ancients, who believed that women, like animals, had bicornuate uteri, such a thing was quite simple. (*Cf.* Aristotle, "De generat.," iv. 87, 88.)

For a normal uterus such a thing is possible up to three months.[3]

The Talmudic authorities do not agree on this question. The Babylonian Talmud does not believe such a thing possible, and Abaye explained the birth of a second child thirty-three days after the first by saying that the

[1] Jer. Yebam. iv.

[2] See Galabin and Blacker's Midwifery, *op. cit.*

[3] *Ibid.*

drop has split into two, one of which was developed at seven and the other at nine months. R. Menachem of Searim records a case where the interval between the births of the first and second infant was three months.[1]

Abaye's statement about the division of one drop into two does not make it clear whether he meant that one egg may have two yolks, each of which may develop into an embryo, or that the germinal area of one fertilized ovum may be divided so as to give rise to two embryos. According to the Palestinian Talmud, however, superfœtation is possible within the first forty days.[2]

Judah and Hizkiah, the sons of R. Chiya, were said to have been such twins, born at an interval of three months of each other.[3] Aristotle believed superfœtation to be possible,[4] and so did Pliny.[5]

Taking into consideration the possibility of superfœtation occurring, a pregnant woman was allowed to use artificial means of preventing conception (see pp. 37 and 181); and pregnant widows were, according to some, not allowed to remarry within a certain time, lest a second pregnancy supervene, causing the first fœtus to become a *sandal* (? *sympodia, fœtus papyraceus*) by compression.[6] R. Bibi, however, allows the use of a tampon in such cases.[7] If a *sandal* is born, it is evidence that there is another child inside.[8]

Embryology of Twins.

Twins occur from the fertilization of two ova at the same intercourse.[9] As stated above, Abaye was of

[1] Nidah 27*a*, Yebamoth 65*b* and 98*b*.
[2] Jer. Yebam.
[3] Nidah 27*a*.
[4] "Hist. Anim.," vii., ch. 5.
[5] "Hist. Nat.," vii., ch. vi.
[6] Yebam. 42*a*.
[7] Nidah 45*a*.
[8] *Ibid.*, 25*b*.
[9] *Ibid.*, 27*a*.

opinion that twins occur as the result of the splitting of the developing embryo. This is in agreement with modern views regarding the formation of a certain rare kind of twins. Twins may have one common amniotic cavity or two separate ones. In either case it is possible for one to be dead and the other alive.[1] Twins contained in the same amniotic cavity are now called "identical twins," and are not only of the same sex, but resemble each other very closely in appearance as well as in their mental capacity.

We now know that twins may have one or two amniotic cavities, but that the modes of genesis of such kinds of twins are different. Where there is only one amniotic cavity, the twin has resulted from a splitting of the fertilized ovum, as was probably believed by Abaye, but such twins only form a very small minority of all cases (less than 1 per cent.). The cases where two separate amniotic cavities are found arise either from two separate ova (86 per cent.) or from the double yolk of one ovum (about 12 per cent.).[2]

The following interesting anecdote illustrating the effect of mind upon the body probably refers to a case of identical twins: There were two sisters whose resemblance was so great that they could be easily mistaken one for the other. One of them was suspected by her husband of infidelity, and was brought up to Jerusalem to be submitted to the ordeal of bitter waters (Num. v. 28). Being guilty, she asked her sister to substitute her, which the sister consented to do. After going through the ordeal, the latter was, of course, pronounced innocent. When she came home, the guilty

[1] Oholoth vii. 5.

[2] See Galabin and Blacker, *op. cit.*

woman ran out to meet her, and gratefully embraced and kissed her, when she smelled the bitter water and died on the spot.[1]

Scientifically there is nothing improbable in this story. Clement Lucas[2] has recorded a case of identical twin girls (with photographs) who are so much alike as to be often indistinguishable from each other by their friends; and we also know that sudden fatal syncope may occur as a result of severe shock in a highly strung individual, possibly affected with heart disease. Shakespeare, however, was scientifically incorrect when he founded his plot in "Twelfth Night" on the resemblance between Sebastian and Viola, as identical twins are always of the same sex.

Determination of Sex.

The problem of the determination of sex, which has till recently baffled modern biologists, and is even now not quite solved, also engaged the attention of the Talmudic philosophers. The question was an important one, because, as we have seen, male children were considered a greater asset than female progeny.

R. Eliezer, in order, no doubt, to encourage charity, advised giving money to the poor as a means of having a male child;[3] but other Rabbis knew that there was something which had to do with conception that decided whether the offspring would be male or female, although they were in the dark as to what that something was. R. Chiya ben Abba believed that abstinence at the

[1] Num. R. ix.

[2] The Bradshaw Lecture on "Some Points in Heredity," London, 1912, pp. 22, 25, 49, 50.

[3] Baba Bathra 10*b* and Kallah R. ii.

approach of the periods was awarded with male progeny, and R. Joshua b. Levi adds also, "of superior intelligence,"[1] thus suggesting that it was something in connection with ovarian metabolism which decided the sex of the child.

According to another Talmudical authority, the sex of the future child is determined by the relative times at which the orgasm occurs in the male and female respectively: if it occurs first in the male, the child will be a girl; if in the female, a boy.[2] It is in this way that the Talmud explains the great excess of male births among the sons of Ulam (1 Chron. viii. 40), because on account of their greater strength they could "retarder l'emission de semence après l'orgasme de leurs femmes." Similarly, R. Ketina said he could, if he liked, have all sons, either "en retardant son emission de sperme, ou bien en produisant deux ejaculations successives; car, dit Rashi, la femme excitée par la première emission, emettra son sperme avant la seconde emission de l'homme."[3] The fact that twins may be of opposite sexes was explained on this theory, by supposing that in such a case the two orgasms occurred simultaneously.[4] This theory was in accordance with that of Aristotle,[5] and a similar theory to the effect that sex is determined by the relative strength of the respective parents is still, though erroneously, held by some people. It is only in cases where both orgasms occur simultaneously that prayers can help to determine sex.[6] R. Chama ben Chanina stated, in the name of R. Isaac, that if the bed is placed between north and south

[1] Shebuoth 18*a*.
[2] Nidah 28*a*.
[3] *Ibid.*, 31*b*.
[4] Nidah 25*b*.
[5] "De Generat.," iv. 25.
[6] Berachoth 60*a*.

the children will be males. Rashi explains this phenomenon as due to the fact that the *Shechina*, or Divine Presence, is situated in that direction.[1] Some modern observers are of opinion that sleeping with the head pointing northwards strengthens the body.[2] Another said that he who drinks wine at the Habdalah service at the termination of the Sabbath will have male children.[3] In any case, it was definitely stated in the Mishna, although some Rabbis did not agree, that environment cannot influence the sex of the child once conception has occurred, and have therefore declared it to be "a fruitless invocation of Providence to pray for male progeny during the wife's pregnancy."[4] This is in complete accord with the results of recent research. Within the last few years it has been shown that sex is associated with the character of the chromosomes (*i.e.*, the special heredity-bearing substances inside the nuclei of the germ cells), and hence is already determined inside the fertilized ovum.[5]

According to a curious myth, a miracle happened in the case of Dinah, the daughter of Leah, who was *in utero* changed from a boy to a girl; but, as the Talmud says, "one cannot rely on miracles."[6]

Hippocrates went a step farther, and stated than an ovum from the right ovary will develop into a boy, and one from the left into a girl.[7] This theory has, however,

[1] Berachoth 5*b* and Rashi, *in loco*.

[2] See *Deutsch. Mediz. Zeitung*, 1894, 109*b*.

[3] Shebuoth 18*b*.

[4] Berachoth 60*a*.

[5] For a discussion of the modern theory of determination of sex, see W. M. Feldman, "Child Physiology," to be published shortly.

[6] Berachoth 60*a*.

[7] Aristotle, "De Generat.," iv. 9, quoted by Preuss.

in modern times been proved to be untrue, since women in whom one of the ovaries has been removed by operation may still give birth to children of both sexes.

According to Galen, quoted by Preuss, it is the spermatozoa which determine the sex; one coming from the right side will produce a male, and one from the other side a female; "et il recommande la compression de l'un ou de l'autre testicule, arrêtant ainsi la sortie de la semence, si quelqu'un désire engendrer un enfant de l'un ou de l'autre sexe." In British East India such a custom is still prevalent.[1]

It is interesting that modern opinion is in agreement with Rabbinic teaching in being against the view (*e.g.*, Schenk's theory) that environment may modify the sex of an individual, and the researches of L. Doncaster, T. H. Morgan, E. B. Wilson, and others, have shown that sex is determined by internal conditions of the germ. That this is so is evident from the following facts:

1. Twins may be, and often are, of opposite sexes—a fact which was well known to the Jews[2] (although denied by Democritus, who believed that sex depends on the intra-uterine temperature, which must equally affect both fœtuses)—thus proving that it is not environment which determines sex, since both are exposed to exactly the same internal and external influences.

2. In the case of identical twins, resulting from the division of one egg to form two individuals, the children are always of the same sex.

[1] *Münchener Mediz. Wochenschrift*, 1906, No. 12, p. 561.

[2] Nidah 25*b*.

In 1864 Thury[1] put forward the theory that ova which are overripe at the time of fertilization give rise to a preponderant number of males. As evidence in support of his theory, he mentioned the fact that the sex-ratio (see Chapter XXV., p. 406) is higher among Jews than among non-Jews. This he believed was due to the special *nidah* or separation laws of the Jewish women, according to which sexual intercourse may not take place for at least twelve days from the beginning or seven days from the end of the menstrual flow. Pearl and Parshley, experimenting on cattle, found the following results:[2]

Time of Service.	*Sex of Young.*		*Sex-Ratio.*
	Males.	*Females.*	
Early in heat	134	178	75·3 : 100
Middle of heat	67	58	115·5 : 100
Late in heat	77	44	175·0 : 100
Totals	278	280	—

These figures appear to support Thury's theory, as regards cattle. In order to test this theory in the case of human beings, my uncle, Rabbi Dayan A. Feldman, collected statistics of fifty-seven Jewish families in which one could be certain that the ritual laws of *nidah* are strictly observed. In the great majority of the families the mothers were at that time beyond the child-bearing age. Those figures show that, out of a total of 402 children, 205 were males and 197 were females,

[1] M. Thury, "Ueber das Gesetz der Erzeugung der Geschlechter bei den Pflanzen, den Thieren und dem Menschen," Leipzig, 1864.

[2] R. Pearl and H. M. Parshley, "Data on Sex Determination in Cattle," *Biol. Bul.*, vol. xxiv., pp. 205-225, 1913.

giving a sex-ratio of 1,040:1,000, which is practically identical with the sex-ratio of 1,041 : 1,000 given in the Registrar-General's return for 1911. On the strength of these statistics Pearl and Salaman conclude that "there is no evidence that in the human race the time of fertilization of the egg relative to the catamenial period has any influence on the sex-ratio exhibited by the offspring."[1]

It would seem that in the case of man the spermatozoa are of two kinds, male and female producing, and it is the fertilization of an ovum by one or the other which determines the sex of the child.[2]

[1] R. Pearl and R. N. Salaman, "The Relative Time of Fertilization of the Ovum, and the Sex-Ratio, amongst Jews," *Amer. Anthropol.*, N.S., vol. xv., No. 4, October-December, 1913.

[2] See L. Doncaster, "Heredity in the Light of Modern Research," Cambridge, 1912, ch. ix.. for more information.

CHAPTER X

PHILOSOPHICAL SPECULATIONS ABOUT THE EMBRYO AND FŒTUS[1]

"Man enters naked at his birth,
And naked leaves this life on earth:
Would that in sin he were the same
When he departs as when he came!"
(Yoma 86*b*.)[2]

As a result of the belief that the semen may remain inside the womb for three days without impregnation taking place (see Chapter VII., p. 106), it became necessary to assume that the vital principle or soul of a human being was imparted to it on insemination rather than on impregnation, for if it were otherwise the semen could not remain for three days without decomposing.[3]

According to the Midrash,[4] the souls of all human beings that ever were born or ever will be born were created during the first six days of the creation of the world. These souls reside in the Garden of Eden, and were present at the time when God made His covenant with the children of Israel. This hypothesis is based on the following two verses in Deuteronomy: "Neither with you only do I make this covenant and this oath;

[1] The term "embryo" is generally applied in modern human embryology to the organism in the first six weeks of its development. "Fœtus" means the organism after the first six weeks.

[2] See "Gems from the Talmud," p. 147.

[3] Sanhedrin 91*b*.

[4] Tanchuma Pikkude 3.

but with him that standeth here with us this day before the Lord our God, and *also with him that is not here with us this day*."[1] It is interesting to compare this with Leibnitz's "scatulation" or "packing" theory of the soul. Leibnitz says in his Theódicée: "I mean that these souls of man are present in the seed, like those of other species; in such wise that they existed in our ancestors as far back as Adam, or from the beginning of the world, in the forms of organized bodies."

At the moment that the child is conceived God beckons to a special angel, and says to him: "Know thou that at this moment a child is being conceived to such and such parents. Take care of the drop, and look after its proper development." The angel does so, and brings the drop before God, who there and then decides upon its future destiny—whether it should be a male or a female, strong or weak, rich or poor, tall or short, nice or ugly, etc. But as to whether it will be upright or not is not determined; this is left to the child's own subsequent free will. God then beckons to the angel who looks after the souls, and orders him to bring a certain spirit from the Garden of Eden, which He commands to enter into that particular drop which is under the care of that particular angel. The spirit protests, and says: "Lord of Creation, why dost Thou send me, that am pure and holy, into such an unseemly drop?" But God answers that it was with that object that the spirit was originally created. And so the spirit reluctantly enters the drop. The angel then takes the drop with its contained spirit back to earth, and places it in its mother's womb. There the embryo is guarded by two special angels, who not only instruct it in general, moral, and religious knowledge,

[1] Deut. xxix. 14, 15.

but take it every morning to paradise, where it can see the reward of the good and the just, and every evening through hell, to show it the punishment of the sinners. A light is said to be burning on the head of the embryo or fœtus, by means of which it can see from one end of the world to the other. "This is nothing strange," explains the legend, "since it is well known that a man sleeping here in Palestine may see in his dream what is taking place in Spain." When the time comes for the child to be born, the angel comes to him, and says, "It is time that thou goest into the world's atmosphere," and the child replies, "Wherefore dost thou wish me to go there?" But the angel rejoins: "My child, know thou that it is against thy will that thou hast been created, and it is also against thy will thou art now about to be born, and against thy will that thou wilt die, and against thy will that thou wilt have to give a full account of thy actions before the King of Kings, the Holy One, blessed be He!" The child still refuses to go, until the angel strikes him on the mouth and extinguishes the candle.[1] According to the Talmudic version, the object of the blow received by the child at the moment of birth is to make it forget all that it had seen and learned, so that its experience may not interfere with the subsequent exercise of its own free will.[2] The infranasal depression in the upper lip is supposed to represent the injury received by such a blow.

This is a hyperbolic expression of the Platonic view that study is only a recollection, because the soul knew everything before entering the world. Güdemann is of opinion that both the Talmudic speculation and Plato's view originate from the same source—viz., an Egyptian

[1] Tanchuma Pikkude. [2] Nidah 30*b* and 34.

myth about Horus or Harpocrates, the child of Isis and Osiris, who was worshipped as a deity (Apollo) even by the Greeks and Romans.[1]

The child cries immediately it is born because it has lost its place of repose, and has come into a world full of trouble.[2] At the birth of Nimrod, however, crying was, according to legend, replaced by laughing.[3] When the soul is given to the embryo, God says to the latter: " This soul which I have given thee is pure. If thou wilt return it to Me the same as it comes to you, well and good; if not, I shall burn it before thee."[4]

The giving of the spirit by God to man is compared to the giving of valuable garments by a King to his servants. The wise servants folded them up, and carefully put them away in a trunk. The foolish ones put them on and went about their work. After a while the King demanded back the garments. The clever servants returned them as clean and as neat as when they were given, whilst the foolish ones returned them dirty and torn. The King rewarded the first and punished the second group of servants. The same is with God. The righteous ones who return the spirit to God pure and holy are rewarded, whilst the wicked are punished.[5] The Midrash puts the same idea into different words as follows: " God says to man, ' My light (*i.e.*, the soul) is in thy hands, and thy light (*i.e.*, life) is in Mine. If thou preserve My light, I shall preserve thine.' "[6]

[1] See M. Güdemann, " Religions geschichtliche Studien," Leipzig, 1876, p. 8 *et seq.*

[2] *Cf.* Yalk. Schim., Gen. xxxviii.; see also Tanchuma Pikkude.

[3] Seder Hadoroth, quoted by Joseph Bergel, " Die Medizin der Talmudisten," Leipzig und Berlin, 1885, p. 70.

[4] Eccles. R. lxxxiii. 4. [5] Sabbath 152*a*. [6] Deut. R. iv. 4.

Human mind is supposed to be governed by two spirits, the good spirit, or *Yetzer Tov*, and the evil spirit, *Yetzer Hora;* and it is the predominance of the one or the other which determines the good or evil action of a person. The evil spirit was supposed by Rabbi Judah the Patriarch to dominate the fœtus at the moment of birth.[1] He based his theory on the words in the Bible that "sin lieth at the door."[2] This, he explained, means the door of the womb. The right kidney is supposed to be the seat of the good spirit, and the left that of the evil spirit.[3] The reason why the "evil spirit" was given to mankind is because, were it not for its existence, man would not build a house, take a wife, have children, or do business.[4]

These interesting speculations are meant to teach that every human being is, from its earliest embryonic state, composed of a double individuality—a Dr. Jekyll and Mr. Hyde. The soul and the body are in intimate union, and each is responsible for the action of the other. "Antoninus said to Rabbi: 'The body and soul can after death clear themselves of any sins committed during life. The body can say it is all the soul's fault, "for, since it has left me, I am lying in my grave as motionless as a stone"; and the soul, on the other hand, can throw all the blame on the body, for it can say, "Since dissolving partnership with it I have been soaring aloft like a bird."' And Rabbi said: 'I shall tell thee a parable: A King who had an orchard containing some beautiful ripe fruit set two people to guard it; one was lame, the other blind. Said the lame to the blind man, "Here is some fine fruit; let me be carried on your

[1] Sanhedrin 91*b*; see al o Gen. R. xxxiv. 10. [2] Gen. iv. 7.
[3] Gen. R. lxi. [4] Gen. R. ix. 7; see also Shochar Tov. xxxvii.

shoulders, and we shall pluck it and eat it." They did so. When the King asked them what became of the fruit, each man put forward his own infirmity as proof of his innocence. What did the King do? He put the lame man on to the shoulders of the blind man, and punished them both together. And so also does God: He puts the soul back into the body and punishes them both together; as it is written (Ps. l. 4), "He calls the heaven above and the earth below to have judgment with Him." The heaven means the soul, and the earth means the body.' "[1]

The position of complete flexion of the fœtus (see p. 135) was also explained philosophically. R. Meir used to say: "Man comes into this world with closed hands, as though claiming ownership of everything; but he leaves it with hands open and limp, as if to show he takes nothing with him."[2] A trace of that conception still survives in a pretty ceremony at the Habdalah service (the benediction on Saturday night at the termination of the Sabbath). During the service the youngest child of the family, in the more religious houses, holds a lighted wax torch, and the father, when he comes to the benediction, "Blessed art Thou, O Lord our God, King of the Universe, who createst the light of the fire," holds his hands over the flame first with his fingers clenched, and then opens them out (see Fig. 2, p. 233).

"How wonderfully great," says the Talmud, "are the actions of the Holy One! blessed be He!" If a man stamps different coins with the same seal, all the coins look alike; but the Almighty stamped every human being with the seal of Adam, yet there are no

[1] Sanhedrin 91*a* and *b*. [2] Eccles. R. v

two persons exactly alike.[1] Moreover, as no two persons look alike, so do no two persons think alike.[2] (Compare the Latin saying, "Quot homines tot sententiæ."[3])

The Midrash also makes the following statement regarding the wonders and mystery of fœtal development: "A human artist can paint a picture on canvas, but finds it impossible to draw anything on a liquid surface; but God forms the features of the embryo inside its mother in a liquid medium."[4]

The *microcosmic* theory, according to which the Greek philosophers Aristotle and Plato believed that the human body was so made as to represent the whole world in miniature, is described in the Talmud as follows: "God created in the human body everything that He created in the world. The hair corresponds to woods and forests; the intestines represent the wild devouring beasts; the nose represents the various odours; the eyes correspond to the light of the sun; the evil-smelling waters are represented by the secretion of the nose; the salt tears represent the seas; the skeleton represents the trees; the saliva represents the sweet waters."[5] Samuel Hakatan describes the eyeball alone as a microcosmos: "The white of the eye is the ocean that surrounds the whole world; the black inside it is the earth; the pupil is Jerusalem; and the face in the pupil (the observer's reflection) is the temple."[6]

The helplessness of a new-born baby has been worked into a beautiful parable: "A fox once came to an orchard

[1] Sanhedrin 38*a*. [2] Tanchuma to Phineas.

[3] Terence: Phormio II., iii. 41.

[4] Berochoth 10*a* and Tanchuma to Tazria, ed. Buber, Wilna, 1885.

[5] Abb. d'R. Nathan xxxi. 3. [6] Derech Eretz, Zutah ix.

which was fenced in all round except for one small opening. He tried to squeeze through that aperture, but failed; so he fasted three days, until he became so thin that he could just manage to get through the hole. He ate to his heart's content, became filled out again, and could not get out. He therefore fasted another three days, until he again reduced himself to a size sufficiently small to emerge through the small space. When he came out, he looked at the garden and said, 'Garden! garden! of what good art thou, and of what good are thy fruits? Whatever is found inside thee is nice and wonderful, but what benefit have I derived from thee? I have come out as hungry as I entered."[1] The same is it with life. "As he came forth of his mother's womb, naked shall he return to go as he came, and shall take nothing of his labour, which he may carry away in his hand."[2]

[1] Eccl. R. v. 14. [2] Eccles. v. 15.

PART III

BIRTH AND EARLY INFANCY

CHAPTER XI

THE BIRTH OF THE CHILD

"For I have heard a voice as of a woman in travail, and the anguish as of her that bringeth forth her first child" (Jer. iv. 31).

Obstetric Considerations.

LABOUR pains were considered a natural phenomenon. "In sorrow thou shalt bring forth children,"[1] was the curse given by God to woman when she tasted of the "Tree of Knowledge."[2] That the pains were associated with expulsive efforts is mentioned in Micah. "Be in pain, and labour to expel, O daughter of Zion, like a woman in travail."[3] Primiparæ were known to suffer more severely and longer. Thus, when Jeremiah speaks of extreme pain he pictures a woman in her first labour.[4] Labour with male children was probably known in Biblical times to be, as a rule, more difficult than with female, as is suggested by the birth of Rachel's son Ben-oni (son of affliction), afterwards called Benjamin: "And it came to pass, as she was hard in labour, that

[1] Gen. iii. 16.

[2] This is possibly an allusion to the fact that the greater the state of civilization the more acute are the labour pains.

[3] Mic. iv. 10.

[4] Jer. iv. 31.

the midwife told her, Fear not; thou shalt have this son also."[1] On the other hand, it is possible that this reference may indicate a difficult labour due to a breech presentation, when it would have been easy for the midwife to ascertain the sex of the child before it actually came into the world. That particular labour was so hard that Rachel actually died during or soon after it. According to the Talmud, it was believed by most of the Rabbis that labours with female children were more difficult, because they erroneously believed, on account of an absurdly fanciful reason, that while males were born in occipito-anterior positions, female children presented in an occipito-posterior position.[2]

Note.—The reason given in the Talmud is "que telle est la position naturelle du mâle et de la femelle pendant le coit"; but the Midrash explains it philosophically as follows: "Each is looking in the direction of the place from which it was created—viz., man towards the earth and woman towards the ribs."[3] That boys were born *facie ad podicem matris conversi* and girls *ad partes abscenas* was still believed by German doctors as late as the seventeenth century.[4]

The Talmud says that during Egyptian bondage women about to be confined used to go out to the field and give birth to their children under an apple-tree, and God sent an angel who cleaned the child,[5] cut its navel cord, and anointed it.[6] The same provident care is bestowed by God upon the young of other animals. The wild-goat of the rock[7] is so cruel to her children

[1] Gen. xxxv. 17.

[2] Nidah 31*a*; also Gen. R. xvii. [3] Gen. R. vii. 8.

[4] John Elerus Ulysseus (1626), quoted from Osiander by Preuss, *op. cit.*, p. 461.

[5] Sotah 11*b*. [6] Exod. R. xxiii. 8. [7] Job xxxix. 1.

that, at the moment when she is about to give birth to her young, she goes up to the top of a mountain in order that the young may fall out and get killed; but God provides an eagle that flies past just at the right moment and receives the young upon its wings. Another animal, the hind,[1] has a very narrow and rigid os uteri which hinders the birth of her young; but just at the right moment God sends a dragon which bites her at that part and thus enlarges the opening. When the young is born, what does God do? He provides a special kind of herb which, when eaten by the mother, causes the wound to heal.[2]

Rabbi Dr. Tobia Katz, who lived in the sixteenth century, speaks of labour pains as due (*a*) to the constitution of the mother—*e.g.*, poverty, anæmia, or some pelvic trouble; (*b*) to the child—*e.g.*, abnormal size or position or dead child.

He suggests several remedies containing cassia wood or myrrh for internal administration, and ointments of althæa or olive-oil for external application.[3]

As regards the position of labour pains, it was known that they were most felt in the loins.[4] According to later legends, pious women were free from the curse that God gave to Eve:[5] "In sorrow thou shalt bring forth children" (Gen. iii. 16). False labour pains are spoken of in the Talmud as lasting anything from fourteen to forty-five days.[6] The "show" is mentioned as a sign of labour, and was believed to be due to the dilatation of the os.[7]

1 Job xxxix. 1.
2 Baba Bathra 16*b*, and Yalkut Shimoni to Psalm civ.
3 Maase Tobia, part iii., ch. 17, ed. Sternberg.
4 Jer. xxx. 6 and Isa. xxi. 3.
5 Sotah 12*a*.
6 Nidah 38*a*.
7 Sabbath 129*a*.

Mechanism of Labour.

The vertex presentation was known to be the most common, and it was also known that occipito-anterior positions are the most favourable, since the child does not have to make a long rotation;[1] but it was wrongly believed that occipito-posterior positions were normal in female children. That the fœtus presented in an attitude of complète flexion has already been mentioned (see p. 135), but it was further known that the head is born by *extension*, as is suggested by the passage: "When a child presents by the vertex, it ought to be considered as born if the greater part of the head—*i.e.*, its forehead—has appeared."[2]

Abnormal Presentations.

Breech Presentations.—These were known, but were considered as abnormal.[3] Compare Pliny's statement,[4] "In pedes procedere nascentem contra naturam est."

Transverse Presentations.—These are mentioned in the Bible in connection with the confinement of Tamar (with twins): "And it came to pass, when she travailed, that one put out his hand,"[5] etc.; and this, of course, would assume that the midwife who attended Tamar, and "put back the hand," performed internal version. Another possibility, of course, is that it was a case of prolapsed hand in a vertex presentation.

Position of Woman during Labour.

The women at different times assumed different positions. They either used to kneel themselves (see-

[1] Sabbath 129*a*. [2] Bechoroth 46*b* and Nidah 28*a*.

[3] Nidah 28*a*.

[4] "Hist. Nat." vii., ch. v. 1. [5] Gen. xxxviii. 27-30.

p. 114) or sit on the knees of somebody else.[1] I have had a case in my own practice where a woman who had a difficult labour wished to be delivered on her husband's knees, as was her wont. The remedy, however, did not help her. A woman in labour instinctively flexes her thighs firmly against her groins,[2] which latter become as cold as stone.[3] The favourite position, however, would seem to have been a special "birth stool."[4] It would be beyond the province of this book to discuss the exact construction and object of the "birth stool," but those who wish to have further information on the subject will find interesting accounts in Dr. Schapiro's "Obstétrique des Anciens Hébreux," p. 106, etc., and in an article by Dr. Finlayson in the *Medical Magazine* for October, 1893, p. 234, etc. Midwives are mentioned very many times in the Bible as well as in the Talmud, and that those midwives were persons of considerable obstetrical skill would seem to be suggested by the story of the delivery of Tamar (see p. 156), and also by the following quotation from the Talmud: "If a fœtus died inside its mother, the midwife who *by means of intra-uterine manipulation* touched the fœtus inside the womb becomes impure for seven days."[5] It is interesting to compare this quotation with one of the rules of the modern Central Midwives' Board, which forbids a midwife to lay out the dead or follow any occupation that is in its nature liable to be a source of infection.

Rôle of the Midwife.

In the Bible the midwife is called *meyaledeth*, or maternity assistant. Two are mentioned by name in

[1] Gen. xxx. 3, and l. 23. [2] Yebamoth 103*a*.
[3] Sotah 11*b*. [4] Exod. i. 16 and other places. *Abnaim* or *Mashber*.
[5] Chulin 71*a*.

the time of the Egyptian bondage—viz., Shiphra and Puah.[1] These names were, according to the Talmud and Midrash, professional appellations, being descriptive of the duties appertaining to a midwife. Shiphra was so called because of her washing and cleansing the baby (*shaphar*, to clean),[2] and Puah indicates that when she calls the woman in travail by name the child comes out.[3]

In the Mishna, a midwife is called *chacama*, "the wise one," like the French *sage femme* or the German *weise Frau*, although the names *chayah* (living) and *molada* (the Aramaic equivalent of the Hebrew *meyaledeth*) are also mentioned.[4]

The Midrash relates a case of difficult labour that had been self-inflicted by the mother by means of a charm. When the doctors came to help her, she told them they were not in a position to do that, because she was herself responsible for the dystocia.[5]

Difficult labour caused by witchcraft is mentioned by Talmudic commentators, who credited Jochani, the daughter of Ratibi, with such powers.[6] She could also expedite delivery by withdrawing her influence.

According to R. Chananel, who lived in the tenth century, the Moslem midwives expedited delivery in a difficult case by whispering a certain charm into the woman's ear.[7] Similar powers were ascribed to midwives by Plato, who wrote that "the midwives can by medicines or charms call forth labour pains or stop them if they so wish it."[8] Local application of oil was used to facilitate labour.[9]

[1] Exod. i. 15.
[2] Sotah 11*b*.
[3] Eccles. R. vii. 1.
[4] Ab. Zarah 26*a*.
[5] Yalkut i., No. 845.
[6] Sotah 22*a* and Rashi, *ad loc.*
[7] See J. Preuss, "Bibl. talm. Medizin.," Berlin, 1911, p. 40.
[8] Plato, "Theætet.," quoted by Preuss, *op. cit.*, p. 41.
[9] Sabbath 128*b*.

There was a popular saying to the effect that "when the woman in labour quarrels with the midwife the baby is the sufferer."[1]

The death of a woman at childbirth was ascribed to negligence of the duties specially prescribed to Jewish women.[2] Prayers were offered for the safety of the woman during labour. The same holds good even now amongst the more orthodox.

Obstetric Operations.

That internal version was probably known and practised has already been mentioned on p. 156. Embryotomy was also done in certain cases of difficult labour. "In the case of a woman whose labour is very difficult, it is necessary to cut up the fœtus inside the womb and extract it piecemeal, because the life of the woman takes precedence over that of the fœtus. If, however, the greater part of the child has already been born, it is not permissible to sacrifice its life in that way."[3] If the woman dies as a result of such manipulations, the doctor cannot be punished, since the Jewish law says that, if a man while intending to kill one person kills another by mistake, he cannot be found guilty of murder.[4]

The moral justification given by the Talmud for destroying the fœtus is that the latter is like an assailant who wishes to murder somebody (the mother), when it becomes necessary not only for the assaulted one to defend herself, but for an onlooker (the doctor) to defend her.[5]

[1] Gen. R. lx. 3. [2] Sabbath 31*b*.

[3] Oholoth vii. 6; see also Bechoroth 46*a* and Chulin 68.

[4] See Sanhedrin ix. 2 and 4; Maimonides, Hilchoth Rotzeach iv.; see also Makkoth ii. 5. [5] Sanhedrin 72*b*.

Cæsarean Section.—This operation was also performed, not only on animals, but on women, and many pages of the Talmud are devoted to a discussion of the legal position of "a child that has come through the abdominal wall, or *yotze dophan.*" This operation was mostly performed immediately after the death of a pregnant woman in order to save the life of the child. It was done even on the Sabbath-day. Samuel the physician ordains that, " If a woman dies in labour on the Sabbath-day, one must fetch a knife, open her abdomen, and extract the child."[1] It is, however, to be noted that, according to another opinion, if a pregnant woman dies, her unborn child dies first, unless the woman has been killed, when the woman dies first.[2] The Greek sophist Gorgias, of Lentini in Sicily, is known with certainty to have been delivered by Cæsarean section from his dead mother about 480 B.C. According to mythology, Semele was consumed by lightning, but her child Dionysius or Bacchus was saved by this operation.

That Cæsarean section was also done on living women is apparent from the following: A child that is born by abdominal section (*yotze dophan*) does not render its mother impure, although R. Simon does not agree, for he holds that such a child is in all respects the same as one born through the natural channels.[3] It would also appear that after such operations it was not uncommon for a woman to be pregnant again.[4]

According to Maimonides,[5] however, it is impossible for a woman to have another child after having had a Cæsarean section done on her.

[1] Erachin 7*a*. [2] *Ibid.*

[3] Nidah 40*a*; see also Bechoroth 47*b*.

[4] See commentary of R. Gershon (1040) to Bechoroth 19*a*.

[5] Commentary to Bechoroth 11.

The incision was made "in the fifth space," which R. Jochanan observes is the space where the gall-bladder is suspended.[1] This incision on the right side of the abdomen is interesting from the point of view of the well-known fact that the uterus is generally inclined to the right side.

A Talmudical commentator remarks that the term Cæsarean refers to the fact that the first Roman Emperor was born in that way.[2]

The Talmud also discusses, in the case of animals, the legal aspect of the mother and its young when two-thirds of the latter were born in the natural way and one-third through the abdominal wall.[3]

Rabbi Dr. Tobia Katz[4] gives indications and full directions for the performance of Cæsarean section. Amongst the indications are—(*a*) Death of mother; (*b*) death of child (mother being alive); (*c*) both alive, but there is a great obstacle to delivery.

The conditions for the operation, as stated by Tobia Katz, are as follows:

1. It must only be done in cases of great necessity.
2. The woman must be strong.
3. The operator must be an expert surgeon.
4. All instruments and dressings must be ready at hand.
5. The assistants must be strong in nerve and in body, to be able to hold the patient down.

The following are steps of the operation:

1. The bladder must first be emptied.

[1] Sanhedrin 49*a*.
[2] Tosaf. Ab. Z. 10*b*.
[3] Chulin 69*b*.
[4] *Op. cit.*, part iii., ch. 18 (Stenberg's edition, pp. 123*a* and *b*).

2. The incision, which must first be marked with ink, is made quickly from the side of the umbilicus down to the mons veneris, and is four finger-breadths long.

3. Care must be taken not to injure neighbouring organs, and not to make the incision too deep, for fear of injuring the child.

4. When the child and placenta are extracted, the wound must be cleaned with some disinfecting fluid consisting of extracts of certain herbs.

5. The wound is then dressed with several layers of warm soft lint dipped in hæmostatic oil.

6. A binder is then firmly applied.

Rabbi Katz adds the following remark in the name of R. Heshel: "The Talmud says that the pupils of R. Simeon ben Yochai asked their master why women have to offer a sacrifice after childbirth, and he replied: 'Because in the excitement of her pains she takes an oath not to give herself to her husband again, and soon after breaks it.' "[1] But the Talmud also says[2] that after Cæsarean section a woman is not impure, and does not require to offer a sacrifice, because there are no lochia coming through the usual channels. Moreover, the Talmud says that after Cæsarean section a woman does not get pregnant again. Hence, according to this, the woman brings a sacrifice, not for breaking her oath (because that has not yet occurred), but for taking an oath before she knew that such was necessary; for should the child have to be delivered by Cæsarean section, she would in any case have no more children, and therefore there is no need for her to keep away from her husband.

[1] Nidah 31*a*. [2] *Ibid.*

Remedies for producing Sterility.

As the precept with regard to procreation only applied to man, it was therefore forbidden to him to use any means for rendering himself sterile. Women, however, were allowed to avail themselves of such remedies in cases where pregnancy would mean danger for the mother or the child. Mechanical means of preventing conception have already been mentioned (see Chapter II., p. 37), but other remedies were also known. Thus, R. Chiya's wife Judith, who had difficult labours, once disguised herself and came to her husband to ask whether it was obligatory for a wife to have children. He answered her in the negative, and she immediately drank a certain potion (*samma di-akartha*).[1] R. Chiya regretted this incident all his life. The composition of that draught is not stated, but the following prescription is recommended in another place as a good *kos shel akarin*, or draught for sterility: "Alexandrian gum, aloes, and saffron, in equal parts, triturated well together and drunk in wine." Many other remedies are also mentioned.[2]

The Midrash narrates that in the time of the Flood men were in the habit of having two wives, one for children, the other for sensual pleasure. The former spent her days neglected like a widow, whilst the latter drank the sterility draught and sat near her husband bedecked in finery like a prostitute.[3]

In addition to such draughts, it is probable that *hysterectomy* or *ovariotomy* was practised for the same purpose, for the Talmud forbids castration in women.[4]

[1] Yebamoth 65*b*.
[2] Sabbath xiv. 3.
[3] Gen. R. xxiii. 2.
[4] Sabbath 111*a*; see also Nidah 41*b*.

Vagitus Uterinus, or intra-uterine crying, was not believed in. "If a child was heard crying, its *head* must have been outside the vulva."[1] Aristotle taught that no child cried before being *fully* born.[2] In this belief they were wrong.[3] The Midrashic expression about the children of Israel having sung hymns in their mothers' wombs is, of course, not to be taken literally.

Superstitions and Customs in Connection with the Birth of a Child.

The following was written in the diary of R. Jehosua ben Levi: "One who is born on the first day of the week (Sunday) will not be a man of many parts—*i.e.*, he will be either wholly bad or wholly good. Born on Monday he will be a man of violent passion, because on the second day the water was separated. Born on Tuesday he will be rich and lascivious, because grass was created on that day. Born on Wednesday he will be wise and have a good memory, because on that day the lights were created. Born on Thursday he will be charitable, because fishes and fowls were created that day. Born on Friday he will be a devout man. Born on Sabbath he will die on Sabbath, because on his account the Sabbath was violated, but, said Rabba bar R. Shilla, he will be a great and pious man." R. Chanina, however, contested that theory, and held that the destiny of man does not depend upon the day of his birth, but upon the hour in which he was born. One born at sunrise will be a bright man, but will not be able to keep his secrets and will not

[1] Nidah 42*b*. [2] "Hist. Anim.," vii., ch. x., § 61.

[3] Cases of vagitus uterinus have been published from time to time. Some nine years ago the author recorded a case in the *British Medical Journal* (February 22, 1908, p. 484).

be successful in stealing. One born under Venus will be rich and sensual. Born under Mercury he will be beautiful and wise. Under Luna—sickly or troubled, but he will be able to keep secrets and be successful in stealing. Under Saturn, his resolutions will come to nothing. Under Jupiter, he will be righteous and beneficent. Under Mars, he will shed blood—*i.e.*, he will be either a surgeon or robber, a butcher or circumciser. Rabba, wishing to disprove this theory, said that he was born under Mars. Said Abayi to him: "Thou, master, reprovest men; and whom thou reprovest he dieth, hence thou also sheddest blood." R. Jochanan inferred from Jer. x. 2, where it is said, "Learn not the signs of the heathen, and be not discouraged at the signs of the heaven," that the Israelites are not subject to the fate of planets.[1]

It is interesting to compare the above forecasts with the following ones given in a Syriac book of medicine written in the early centuries of the Christian era:[2] He who is born under Hermes (*i.e.*, either the night of the first day or on the fourth day of the week) will be wise. One born under the sun (*i.e.*, on the first day or the night of the fifth day) will be a prince. Born under Zeus (*i.e.*, the night of the second day or on the fifth day) he will be a man of peace. The moon rules the second day and the night of the eve of Sabbath, and therefore one born at that time will either be beautiful or suffer from sickness. The night of the third day and the eve of the Sabbath are governed by Aphrodite. A child born then will be beautiful and beloved by men.

[1] Sabbath 156*a*.

[2] "Syriac Book of Medicines," ed. E. A. Wallis Budge, Oxford, 1913, vol. vi.

Born under Aris (*i.e.*, on the third day or the night of the Sabbath) one will be a physician or live long. The night of the fourth day and the day of the Sabbath are ruled by Kronos. He who is born therein will become very old and a person of knowledge.

The following rhyme, discovered by Dr. James Hardy in the Denham tracts, quoted by Ploss,[1] is interesting in this connection:

> "Born on a Monday, fair of face;
> Born on a Tuesday, full of grace;
> Born on a Wednesday, merry and glad;
> Born on a Thursday, sour and sad;
> Born on a Friday, godly given;
> Born on a Saturday, work for your living;
> Born on a Sunday, never shall want."

Divination by Letters.

According to the same Syriac writer, the following method may be used for telling whether a woman has conceived a boy or a girl: Find out what day of the moon it is, and reckon up the numerical values of the letters in the name thereof; reckon up the numerical values of the letters in the name of the woman, add to it 28, and then divide each by 2. If the remainder is 1, the child is a boy, and if it be 2 the child is a girl.

If you wish to know whether a new-born child will live or die, reckon up the numerical values of the letters in the names of the father and mother and of the day on which the child was born, and add to them 300; add them all up together, and divide them by 7. If the remainder is an odd number the child will live for five years, and if an even number he will die. If the child be a girl and an

[1] See "Das Kind," 3rd edition, Leipzig, 1911-12, vol. i., pp. 65-74.

even number remain, she will live for years, and if an odd number remain she will die.[1]

In the modern ghettoes of Eastern Europe there are different customs in connection with the birth of a child. Most of these are not of Jewish origin, but have been borrowed from neighbouring people.

In some places all the women in the house loosen their hair; in other places all the knots in the women's clothes are untied. Even in the Jewish quarter in London, certain amulets are used to protect the mother and child from their special fiend Lilith, Adam's first wife—called Lilith because she is supposed to fly in the night.[2] Some of these charms, consisting of sheets of paper containing certain portions of the Psalms, together with the sign of the Shield of David and the words "God destroy Satan," are hung over the patient's bed and other parts of the lying-in room. Other now obsolete amulets contained the following text: "Elijah the prophet—may he be mentioned for good!—once went upon his way, and met Lilith with all her kith and kin. And he said unto Lilith the fiend, 'Thou unrivalled in impunity, whither art thou going?' She answered, 'My master Elijah, I am going where I may find a woman in travail. I will cause a deep sleep to come over her, and I will rob her of her new-born child. I will drink its blood and suck its marrow and devour its flesh.' And Elijah—may he be mentioned for good!—spake angrily, 'May God—blessed be He!—banish thee hence!' Lilith replied, 'For God's sake spare me, and I will

[1] "Syriac Book of Medicines," ed. E. A. Wallis Budge, Oxford, 1913, vol. ii., p. 625 *et seq.*

[2] Num. R. c. 16.

get me hence. I swear to you by the name of the Lord God of Israel I will desist from my intent upon the woman and her child, and whenever I hear my name called I will go away.' "[1] In Roumania a lying-in woman is not left alone in the room, and a dagger is stuck in the ground near her bed, and for thirty days in succession is carried round the bed whilst the following verses are sung:

> " I make a circle,
> Which God well knows.
> As many tiles as are on this roof,
> So many angels keep watch o'er us."[2]

During these thirty days the school-children read the evening prayers in the lying-in chamber, in order to keep off the pixies.[3]

Lilith was supposed to be the chief cause of diseases of children. Another demon was Agrath (the Roof Demon), and another was Shimah (Destruction). This last met, according to a legend, a child of the giants that lived before the Flood, whom the mother had sent to bring a knife for cutting its navel. The demon then said to the new-born giant baby, " Go and tell thy mother that the cock has crowed, otherwise I would have struck and killed thee," to which the baby replied, " Go and tell thy mother that my navel hath not yet been cut, otherwise I would have struck and killed thee."[4]

To be born with a caul—*i.e.*, a piece of amnion round its head—is considered a sign of luck (the same is the case in Iceland; compare Grimm, " Märchen," ii. 59), and the caul is preserved for the remainder of the child's

[1] Quoted by Rev. Dr. M. Gaster in his article " Childbirth " in the " Jewish Encyclopædia," vol. iv., p. 30.

[2] *Ibid.* [3] *Ibid.*, p. 31. [4] Gen. R. xxxvi.

life. To announce the sex of the child before delivery of the placenta is considered unlucky, and is strictly avoided. A very old ceremony at the birth of a child used to be to plant a tree—a cedar for a boy, and a pine for a girl—and when the children grew up they used these trees as poles for the marriage canopy. These trees were held very sacred. It is narrated that it once happened that, when the daughter of an Emperor was riding through the city of Bethar, her carriage broke down, and her coachman cut down a young cedar-tree in order to repair it, whereupon the man who planted the tree attacked him. This incensed the Emperor, who captured the city and killed its inhabitants.[1]

The planting of trees at the birth of children is still met with among certain people. In Livonia this custom continues. The trees are well tended and cared for, as the fate of a child is believed to depend on that of its tree.[2] Some Jews still put away a bottle of wine at the birth of a child, and this is drunk at the child's wedding.

The customary feast-making at the birth of a child was deprecated by some pessimistic philosopher. It is a topsy-turvy world, said R. Levi. When a ship is launched people feast and make merry, although they know nothing of the fate that is in store for her; but when the same vessel comes back safe to harbour after a successful voyage, there is hardly any notice taken of her. Surely the reverse should be the case! The same applies to man. People should not rejoice when a child is born, when nothing is known of its future career; it is when

[1] Gittin 57*a*.

[2] Witkowski, "L'Accouchement chez tous les Peuples," p. 242, quoted by Dr. Schapire *op. cit.*, p. 128.

man dies, after having lived a good, useful, and upright life, that the time has come for rejoicing.[1]

The following Latin verses by Lord Grenville, cited by Witkowski,[2] express a somewhat similar idea:

> "Dum tibi vix nato læti risere parentes
> Vagitu implebas tu lacrymisque domum.
> Sic vivas ut, summa tibi cum venerit hora,
> Sit ridere tuum lacrymare tuis."

Privileges of a First-born Son.

Primogeniture confers on a son the right of a double portion of inheritance. This privilege, however, belongs only to a son who is the first child of both parents (even if the mother had previously miscarried), or of the father (even if the first-born be illegitimate).[3] The first-born of a mother is holy to God, for it says: "Sanctify unto Me all the first-born, whatsoever openeth the womb . . . the males shall be the Lord's."[4] It is therefore the duty of the father to redeem him, even if he has already other children (see Redemption of the First-born, Chapter XVI.). If, however, the mother had previously given birth to a child, even if that child was born dead, so long as it was alive when its head presented, this redemption is rendered unnecessary. The right to a double portion of inheritance does not apply to a first-born son who was born after the death of the father,[5] or to a child that was born by Cæsarean section.[6] If a first-born son dies during his father's life, the grandfather has the

[1] Eccles., Rabba, vii.

[2] "Les Accouchements dans les beaux Arts dans la littérature et au théatre," Paris, 1894, p. 576.

[3] Yebam. ii. 3.

[4] Exod. xiii. 2, 12.

[5] Baba Bathra 142*b*.

[6] Bechoroth viii. 2 (47*b*).

right to say that he does not wish his grandchild to inherit a double portion of his property. Further, the privilege of inheriting a double portion only applies to property, movable or immovable, that belongs to the father during his life, and not to that which is about to come to the father after death.[1] As an example of the latter is to be mentioned a promissory note that falls due after a certain date. If the father has any creditors, the first-born son cannot give them promissory notes or other bills possessed by his father in payment or part payment of debt, but they have a right to claim it from the deceased's property.[2] The first-born son represents his father in his absence, and is therefore entitled to extra respect from his younger brothers and sisters.

The right of primogeniture belonged not only to the first-born, but also to his descendants. Thus, if A, the first-born of B, died during B's lifetime, leaving a daughter C, this daughter entered upon the full right of A at B's death.[3]

A posthumous first son has no right of primogeniture. Thus, if two sons (twins or of two wives) are born after the father's death, the estate is divided equally between them. (See, further, "Primogeniture," p. 363.)

Identification of the First-born.

When doubt arose with regard to primogeniture, especially in cases of twins, the following three persons were entitled to decide it:

1. The midwife, only immediately after birth.

[1] Bechoroth viii. 9 (52*a*).
[2] Shaaloth uteshuboth "Peri eretz" on Chosben Mishpat xi.
[3] Baba Bathra 117*a*.

2. The mother, during the first seven days.

3. The father, from the eighth day—*i.e.*, day of circumcision—onwards.[1]

When a first-born son enters upon his inheritance, he must contribute a double share towards the payment of his father's debts unless he renounces his birthright.[2]

[1] Kiddushin 74*a*

[2] B. Bathra 124*a*.

CHAPTER XII

THE INFANT AND ITS MOTHER

"R. Simeon ben Gamliel says: For the sake of an infant even one day old the Sabbath may be desecrated; but when a man is dead, even if he be as great as David, King of Israel, the Sabbath must not be desecrated for his sake" (Sabbath 151*a*).

The Infant.

Viability.—A child born at nine months or seven months is viable, but it cannot live if it is born at eight months, and the Sabbath must not therefore be desecrated on its account.[1] This idea was in accordance with the teaching of Hippocrates, Pliny, and Galen, and still prevails among the bulk of the general public, although Aristotle, in agreement with modern opinion, considered eight months' children viable.[2] In another passage in the Talmud it is stated that even a six and a half months' baby can live.[3] It is, however, stated that "if the hair and nails are found as they ought to be in a fœtus at full term, the child is viable even though born at eight months."[4] The Palestinian Talmud records a controversy between Jews and Christians on this matter. The latter ridiculed the idea that an eight months' child is not viable, although a seven months' child is; but R. Abuhu wittily pointed out to them that their own alphabet (Greek) attributes viability to a seven months'

[1] Sabbath 135*a*.
[2] "Hist. Anim.," vii., ch. 33.
[3] Yebamoth 42*a*.
[4] *Ibid.*, 80*b*.

but not to an eight months' child. For zeta, which stands for 7, is the first letter of the word ζάιν, which means life; whilst eta, which stands for 8, means death (ἥττα).[1]

The fact that an eighth-month child sometimes does live was explained by the Rabbis on the supposition that in such a case the fœtus was really ripe to be born at seven months, but was delayed *in utero* for another month.[2] Moreover, R. Abuhu asserted that such a child cannot really be considered viable until it has reached its twentieth year.[3]

The length of a new-born baby is given in the Midrash as a little more than a cubit (Amma Gᵉduma).[4] As a cubit is about 18 inches, this corresponds to about 20 inches, which is approximately the average length of a modern new-born baby.

Although the baby is covered with mucus and blood, yet everybody kisses it, especially if it is a boy.[5]

The following extract is more beautiful than true: R. Simeon b. Eliezer said that "a child one day old does not require watching lest serpents or weasels pick out its eyes. The lion runs away when he sees it, so mighty is the power of the living. When, however, man is dead, his corpse must be guarded from weasels and mice, even if it be that of the giant King of Bashan (Deut. iii. 11)."[6] No animal is afraid of the dead.

Baby's Immediate Care.—To resuscitate an apparently stillborn baby, one of the remedies is to place the placenta in oil if the woman is of very noble birth, or

[1] Jer. Yebam. iv. 2; Gen. R. xiv. 2.
[2] Yebamoth 80*b*.
[3] Yebam. 80*a* and Rashi, *ad loc.*
[4] Gen. R. xii. 6.
[5] Pesikta de R. Kahana ix. 77*b*, quoted by Preuss, p. 466.
[6] Sabbath 151*b* and Gen. R. xxxiv. 12.

wrap it up in wool or cotton, according as the mother is rich or poor; this will sympathetically warm and revive the child.[1] Another method is to rub the child with the placenta.[2]

According to Wunderbar,[3] this applies to a placenta still unseparated from the child, whereby more blood is transmitted to the child. But the more scientific method of insufflating air by means of a fan is specially recommended.[4] To be born with a caul is considered a sign of luck. Immediately after birth the umbilical cord was ligatured and cut, and the baby was bathed, rubbed with salt, and wrapped in swaddling-clothes.[5] These offices had, according to all shades of opinion, to be done even on the Sabbath-day.[6]

According to Kotelman,[7] the section of the cord was done by means of a stone, after the manner of the ancient Egyptians, and that a ligature, or some other means of stopping bleeding from the cord, was used is evidenced by the quotation from Ezekiel already referred to.[8] "And as for thy nativity, in the day thou wast born thy navel was not cut, neither wast thou washed in water to supple thee; thou wast not salted at all, nor swaddled at all. . . . And when I passed by thee, and saw thee polluted in thine own blood . . ." From this it is obvious that bleeding of the infant was evidence of neglect on the part of the midwife, although the bleeding referred to in this quotation could not have come from the cord, the latter not yet having been cut.

[1] Sabb. 129*b*. [2] *Ibid.*, 134*a*.
[3] "Bibl. talm. Medizin," 1 Heft, 3 S. 52. [4] Sabb. 134*a*.
[5] Ezek. xvi. 4. [6] Sabb. 129*a*.
[7] Kotelman, "Die Geburts-hülfe be iden alten Hebräer," Marburg, 1867, p. 43, quoted by Finlayson, *Med. Mag.*, October, 1873, p. 243.
[8] Ezek. xvi. 4, 6.

The salt was probably used for its antiseptic and stimulating properties. This is not actually mentioned in the Talmud, though Rashi gives this reason; but Galen[1] speaks of the body of the infant being sprinkled with salt, "so that the skin may be rendered more dense and solid" ("sed corpori prius toti sale modice insperso, quo cutis ejus densior solidiorque iis quæ intus sunt, partibus reddatur").

Osiander suggests that the salt was probably bicarbonate of soda, which is even at the present time indigenous to Egypt, and which would make a soap with the vernix caseosa.[2] This explanation, however, is not tenable, since the Hebrew for bicarbonate of soda is *nether* (*nitrum*), whilst the text in this case gives the word *melach* (which means table salt).

The object of the swaddling-clothes was to straighten the delicate limbs, which have been pressed upon and bent during delivery.[3]

As regards the infant's bath, the Talmud says that the baby's pleasure is to be bathed in warm water, and when it gets a little older its pleasure is to break utensils.[4] Some mothers bathed their children in wine.[5] Plutarch in his Life of Lycurgus says that the Lacedæmonians used to bathe their new-born children in wine in order to strengthen them.[6] After the bath it was considered a good thing to rub the baby with oil. The learned octogenarian Chanina ben Chama, who was strong enough to stand on one foot and put on and take

[1] Galen, "De sanitate tuenda," i. 7, Kühn's edition, Tom. 6, p. 32, quoted by Finlayson, *loc. cit.*, p. 243 (note).

[2] "Handbuch d. Entbindungskunst," Tübingen, 1820, ii. 213, quoted by Preuss.

[3] Sabb. 66*b*, Rashi.

[4] Yoma 78*b*.

[5] Tosefta, Sabbath xiii. 10.

[6] Quoted by J. Preuss.

off his boot from the other foot, attributed his strength to the warm baths and the oil with which his mother anointed him in his childhood.[1]

Although, according to Psalm cix., the oil is absorbed into the body, still, the Talmud distinctly states that the beneficial effect is not due to any absorption, but to the massage.[2] There is a superstition amongst Galician Jews that a child's bath must not be used for any other purpose, or the child will not prosper.[3]

Manipulation of the head of the new-born baby was also practised, in order to mould it into shape. The question why the heads of the Babylonians are round is answered by Hillel by the statement that the Babylonians have no competent midwives to bring the head into its proper shape.[4] Moschion desires that the head be made round, and Hippocrates states that the Asiatic midwives mould the infant's head into a long shape.[5]

A certain emetic drug called *asube yenuka* (infant's herb) was used for cleansing the child's mouth.[6]

Jewish children were, according to the Talmud, very beautiful, and so aroused the jealousy of the Romans that they were in the habit of making use of a special amulet consisting of handsome faces set in signet rings, in order to effect the begetting of good-looking children.[7] Later they went as far as having Jewish youths themselves tied to their beds. (*Cf.* Chapter I., p. 11.)

[1] Chulin 24*b*.
[2] Berachoth 57*b*.
[3] Schiffer, "Urquell," ii. v. 14. See article "Superstition" in "Jewish Encyclopædia," vol. xi., p. 600.
[4] Sabbath 31*a*, and Abboth d'R. Nathan. See also p. 9 of this book.
[5] See Preuss, *op. cit.*, p. 468; also Ploss, "Das Kind," i. 306.
[6] Sabbath 123*a* (Aruch).
[7] Gittin 58*a*.

Breast Feeding.

This feeding was in general considered to be an imperative duty of a mother, except in the case of a very rich or an ailing woman. Thus says the Talmud: "The following are the duties which a wife has to fulfil for her husband: She has to grind corn, bake bread, wash clothes, suckle her child, make his bed, and spin wool. If she has twins, the husband must provide a nurse for one, while she suckles the other. If at marriage she brought with her one servant, she does not grind, bake, or wash. If she brought two servants, she need not cook or suckle her child."[1] In cases of weak children, however, lactation was absolutely obligatory.[2] A mother who neglected her duty in this respect was considered worse than a monster, and was compared to the ostrich, which was erroneously supposed so to neglect her offspring that "she leaveth her eggs in the earth . . . and forgetteth that the foot may crush them, or that the wild beast may break them. She is hardened against her young ones, as though they were not hers."[3] Thus does Jeremiah give a poetic representation of a neglectful mother: "Even the sea-monsters draw out the breast, they give suck to their young ones: the daughter of My people is become cruel, like the ostriches in the wilderness. The tongue of the suckling child cleaveth to the roof of his mouth for thirst."[4] If a mother made a vow not to suckle her baby, then, according to one school, her vow holds good; but according to the school of Hillel (whose decision in this matter was considered final) the husband can compel her to break

[1] Kethuboth 59*b*.
[2] *Ibid.*
[3] Job xxxix. 14-16.
[4] Lam. iv. 3, 4.

her vow and give her child the breast.[1] If, however, the woman is divorced from her husband, the latter cannot compel her, except in the case of a child fifty days old, which was considered to be old enough to recognize its mother and refuse to take the breast from a strange woman. It is not stated whether the danger lies in the change of milk, or whether it is on account of the risk of the baby refusing to suck from a strange woman. In such cases the husband must pay her and compel her to suckle the child.[2] A blind child was believed to be able to recognize its mother's milk by its taste and smell.[3] Mar Samuel ridiculed the statement made by somebody, that a baby, even when it is only three days old, can distinguish between the milk of its mother and that of a strange woman, by the sarcastic remark that he can even recall the face of the midwife who brought him into the world![4]

Milk-producing breasts were considered a great blessing,[5] and dry breasts the greatest curse.[6] Where for any reason, such as great riches or illness or death of the woman, or as a result of another emergency, the mother was unable to suckle her baby, a wet-nurse was employed,[7] and she was treated with every deference

[1] Kethuboth 59*b*. [2] *Ibid.*, 59*b* and 60*a*. [3] *Ibid.*, 60*a*.

[4] J. Keth. v. 6. This remark reminds one of the following lines on "A Terrible Infant," by Frederick Locker:

"I recollect a nurse called Ann,
Who carried me about the grass,
And one fine day a fair young man
Came up and kissed the pretty lass;
She did not make the least objection!
Said I, *Aha!*
When I can talk I'll tell mamma!
And that's my earliest recollection."

[5] Gen. xlix. 25. [6] Hos. ix. 14. [7] Exod. ii. 7, 9.

and respect. When Rebekah was married, her nurse was sent away with her;[1] and when the nurse died she was buried under an oak, which received the name of Allon-bachuth (*i.e.*, the oak of weeping).[2] Poor motherless babies were suckled by neighbouring mothers in turn[3] or fed on milk and eggs.[4] If a child refused to take the breast, it was considered to be due to spasm of the facial muscles, and it was recommended to hold a beaker filled with hot coals near its mouth, with the object of relieving that spasm.[5] Lactation was considered of such enormous importance that all the domestic duties had to be put aside in its favour. This is clearly seen from the following: "And the man Elkanah, and all his house, went up (to Shiloh) to offer unto the Lord the yearly sacrifice. . . . But Hannah went not up; for she said unto her husband, I will not go up until the child (Samuel) be weaned. . . . And Elkanah her husband said unto her, Do what seemeth thee good; tarry until thou have weaned him. . . . So the woman abode, and gave her son suck until she weaned him."[6]

The Talmud says that Hannah before she had a child pleaded to God as follows: "O Lord of the Universe, everything that Thou hast created in a woman Thou hast surely created with an object. Thou hast given her eyes wherewith to see, ears wherewith to hear, a nose wherewith to smell, a mouth to speak, hands to work, legs to walk, and breasts wherewith to suckle a child. Give me a child so that I may use my breasts to suckle it."[7]

[1] Gen. xxiv. 59. [2] *Ibid.*, xxxv. 8.
[3] Abboth d'R. Nathan xxxi. (commencement).
[4] Yebam. 42*b*.
[5] Sabb. 134*a*. [6] 1 Sam. i. 21-23. [7] Berachoth 31*b*.

Pregnancy was considered to have a deleterious effect upon the mother's milk, and such was the importance attached to suckling that it was one of the three cases in which a woman was permitted to use mechanical methods of preventing conception, so that the baby may not pine away by the occurrence of pregnancy.[1] The other cases were extreme youth and delicate health on the part of the mother (see p. 37), and pregnancy—from the supposed danger of superfœtation. When beginning to suckle, one should start with the left breast.[2]

Suckling is the most important thing for a baby, who can remain at the breast for the whole day without harm.[3] At night the baby sucks towards the early hours of the morning.[4] No woman should suckle her baby in the street, and one who does so is, according to R. Meir, to be divorced.[5] If one of twins stops suckling, the other does the same and the breasts involute.[6] The child must be put to the breast within twenty-four hours of birth.[7]

Care of Mother during Lying-in and Lactation.

For the sake of a puerperal woman it was permitted to profane the Sabbath.[8] Also certain religious rites were excused her for the sake of her health—*e.g.*, the postponement of the ritual bath, in order to prevent her from catching a cold.[9] Rabbi Chisda's daughter was brought to consult Rava for such trouble.[10] Lying-in women were also allowed to indulge in a game of

[1] Yebam. 12*b*, 34*b*, and 69*a*; Kethub. 34*a*.
[2] Sefer Chasidim, ch. 69.
[3] T. Sotah iv. 3.
[4] Berachoth 3*a*.
[5] Gittin 89*a*.
[6] Cant. R. to iv. 5.
[7] See Preuss, p. 470.
[8] Sabb. 129*a*.
[9] *Ibid.*
[10] *Ibid.*, 133*b*.

chess at a time when everybody else had been forbidden to do so.[1]

A husband had no right to prevent his wife from suckling her child, since it is she who is liable to suffer from engorgement of breasts due to non-lactation.[2] The following is a curious, though in the present connection a somewhat uncomplimentary, maxim of the Rabbis: "More than the calf wishes to suck does the cow wish to suckle."[3]

Origin of Milk.

As we have already seen, the Rabbis believed that milk came from the blood, and explained the amenorrhœa of pregnancy as due to the transformation of the menstrual blood into mammary secretion.[4]

According to Dr. Tobias Katz,[5] the cord should be tied three finger-breadths from the umbilicus. The baby should be given a piece of lint soaked in almond-oil or sugar and butter to suck. The mother should not put the baby to the breast for ten hours after parturition, "so as to get rid of the colostrum." She should also avoid giving the breast too often, because the milk gets spoiled inside the baby's stomach.

Diet of a Nursing Mother.

It was known that articles of diet have an effect upon the mammary secretion. Some foods suppress milk, others alter its composition.[6] The Talmud, even went

[1] Schmidt, "Jüdische Merkwürdigkeiten," pt. vi., ch. xxxv., p. 317.

[2] Kethub. 61*a*.

[3] Pessachim 112*b*.

[4] Nidah 9*a* and Bechoroth 6*b*.

[5] *Op. cit.*, p. 124*a*, col. 1.

[6] Kethub. 60*b*.

as far as to believe that the appearance and physique of the child depended upon the nature of the food consumed by its mother whilst carrying or suckling. Thus, if the mother takes mustard, the children grow up greedy; if cress is taken, blear-eyed children may result; the result of eating clay is that the child will have an ugly long neck; if she drinks new wine, the child will have a dark complexion; old wine and meat produce healthy children; fish partaken of by the mother will give rise to graceful children; eggs produce large-eyed children; parsley, beautiful children; coriander, muscular children; and citrons give the children a pleasant odour.[1] Wine, according to another authority, increases milk, and the mother was therefore recommended to have an extra portion of it.[2] There was, however, never any danger of giving the woman too much alcohol, for there is another statement that "One cup of wine is good for a woman, two are disgraceful, three demoralizing, and four brutalizing."[3] A nursing woman was given a more liberal diet and less work to do,[4] but she was not exempted from fasting on the prescribed fasts.[5] No woman was allowed to suckle two children at the same time.[6] The effect of pregnancy upon the milk has already been mentioned. It was believed that certain characters are transmitted by the suckling woman to the child, as is seen from the following anecdote narrated in the Midrash:

"A Gentile once brought two youthful Jewish slaves with him from Palestine. When he came home, his mother served him with some mutton. Then one of the youths remarked to the other that the mutton had

[1] Kethub. 60*b* and 61*a* [2] *Ibid.*, 65*b*. [3] *Ibid.*, 65*a*.
[4] *Ibid.*, 65*b*. [5] Taanith 14*a*. [6] Kethub. 60*b*.

a 'doggy' smell about it. The master overheard it, and questioned his mother, who admitted that the mother of that lamb died immediately after giving birth to it, and the latter was reared by a bitch who gave it suck. (Compare the story of Remus and Romulus, who grew up so strong because they were suckled by a she-wolf.) The man was overjoyed with the cleverness of his young slaves. After he had eaten and drunk to his heart's content, he stood up and danced, when one of the youths again remarked to the other, 'Look at the master's legs; they are exactly like those of a stage dancer. No doubt his father must have been an actor.' The master overheard it, and taxed his mother with it, who admitted that her husband was impotent, and, fearing that his relatives would inherit his property, misconducted herself with a stage dancer, and gave birth to him."[1]

"Large breasts," says the Talmud, "are an ornament in women (*cf.* Cant. iv. 5), but a deformity in men."[2] A story is related in the Talmud of a man whose wife died leaving an infant at the breast. The man's breasts developed to such an extent that he suckled it.[3] A similar instance in modern times is recorded in Stewart's "Physiology."[4] Mordecai is said to have suckled his niece Esther.[5] Raba bar bar Chona, the Baron Münchhausen of the Talmud, narrates having seen an Arabian woman whose breasts were so long that she could throw them over her shoulders and give her baby suck on her back.[6]

[1] Echa R. and Yalkut Shemoni.
[2] Jer. Keth. vii. 7; Gittin ii. 4. [3] Sabb. 53*b*.
[4] G. N. Stewart, "Manual of Physiology," 7th edition, London, 1914, p. 1097. [5] Gen. R. xxx. 8. [6] Kethuboth 75*a*.

Rabbi Dr. Katz[1] gives full directions for the care of lying-in women. He gives particulars of the arrangement of the bed, avoidance of all kinds of movement and of cold air (in order to prevent postpartum hæmorrhage and abdominal pain or peritonitis), and not to fall asleep immediately after parturition, in case she faints. This fear still prevails amongst the more ignorant people. The diet during the first three days should consist of chicken, soups, and toast, or fresh butter, or a new-laid egg in chicken broth. After the third day she may have chicken or veal. He also states, on the authority of another physician, that the woman may have a little wine, even if she has fever, because the alcohol strengthens the heart and causes lochia to flow, which cures the pyrexia.

Rules with Regard to a Wet-Nurse.

1. No nurse may suckle her own or somebody else's baby in addition to her charge.

2. She must have abundant food even if her salary is not sufficient.[2]

3. A Jewish woman may not suckle a heathen child, because in this way she brings up another heathen, but a heathen woman may, according to some, but not according to others, suckle a Jewish child. The reason given by those who are against this practice is that the nurse might kill the baby by pressing upon its fontanelle, (which, according to Rashi (Menachoth 37*a*), closes after the first year), or by putting poison on the breast.[3] It is possible that this may mean that one cannot be sure

[1] *Op. cit.*

[2] Kethub. 60*b*.

[3] Aboda Zarah 26*a*.

of the absence of constitutional disease in a heathen, which might poison her milk.

The Comparative Value of Mother's Milk and Milk of a Wet-Nurse.

R. Achai says that he who buys food from the market is like a suckling whose mother is dead, and who is brought to a wet-nurse to suck without being fully satisfied; but he who has his own fields is like a suckling who thrives on the breasts of its mother.[1]

Purification of the Mother.

The Levitical Code lays down strict rules which, with modifications, are observed by Jews even at the present time, with regard to the periods during which a puerperal woman remains "unclean." If she bear a male child, the woman remains "impure" (wholly "impure" or only partly so) for forty days; if a female child, for eighty days.[2] This double period of uncleanness in the case of a female birth is not in conformity with modern ideas, since it is a fact that the disturbance in the mother's system is greater in the case of male births (on account of their larger average size); but according to the Talmud parturition is more difficult with female children, because, lying (as they were believed to do) in occipito-posterior positions, they had to undergo a long rotation (see p. 154). According to R. Simeon ben Yochai, however, the extra period of uncleanness in the case of a female child was instituted as a sort of punishment to the woman for having given birth to a child which creates domestic sorrow rather than rejoic-

[1] Abb. d'R. Nathan xxxi. 1. [2] See Lev. xii. 2-6.

ing (see Chapter XIII., p. 204). In the case of Cæsarean section, there is no definite period of uncleanness, because, says the Talmud, the verse (Lev. xii. 2) says that "if a woman have conceived seed, and a male child is born, she shall be unclean," etc. One is, therefore, to infer that she must only remain unclean if the child came in the same way as it was conceived.[1] The Biblical injunction about uncleanness was also prevalent amongst other races. A woman was not allowed by the Greeks to come to the temple for forty days after childbirth. Jesus was brought up to Jerusalem when the days of the purification according to the law of Moses were fulfilled;[2] and the 2nd of February, which is forty days after the 25th of December (the birth of Christ), is still kept as the day of the "Purification of Mary."

The cause of uncleanness for so many days is not understood. The reason for bringing a sin-offering after the expiration of the period of uncleanness is given by R. Simeon ben Yochai. He says that "when a woman is in travail she takes an oath (in her excitement) never to cohabit with her husband again" (a remark with which every experienced accoucheur is familiar), "but she does not keep her oath."[3]

Privileges of a Puerperal Woman.

The Sabbath must be profaned for the sake of a puerperal woman, whether she demands it or not, so long as her womb remains open (has not involuted); but after her womb has closed one may only desecrate

[1] Nidah 40*a*. [2] S. Luke ii. 22. [3] Nidah 31*b*.

the Sabbath if the patient's condition urgently demands it.[1]

Different opinions are expressed as to the length of time the womb remains open. According to some it was only three days, and according to others no less than thirty days.[2] It is now known that involution is not complete until six weeks after labour.

After the prescribed period of impurity, the woman had in Biblical times to sacrifice an offering to God.[3] Nowadays, at the termination of her period of impurity, the woman must immerse her whole body in a ritual bath—*i.e.*, one containing 40 saah (about 800 litres) of water.[4]

Weaning.

The cessation of suckling took place when the child was anything between eighteen months and three years old. Thus, according to a verse in the Second Book of Maccabees (vii. 27), children were nursed at the breast for three years. "O my son, have pity upon me that bare thee nine months in my womb, and gave thee suck three years." Feasts were generally made on weaning a child; *e.g.*, Abraham made a great feast on the day that Isaac was weaned.[5] The feast was in celebration of the fact that the child had passed the dangerous age of infancy.

According to Moschion, the age for weaning among the Greeks was one and a half to two years; and, according to Schubart, in ancient Babylon and in Egypt babies were weaned at three years of age.[6]

[1] Sabb. 129*a*. [2] *Ibid.* [3] Lev. xii. 6-8.
[4] Yorë Deah 201. [5] Gen. xxi. 8.
[6] Schubart, "Die Amme in alten Alexandrien," *Jahrbericht f. Kinderheilk.*, 1909, p. 93.

According to Rashi and the Midrash to 1 Sam. i. 23, 24, Samuel was weaned at the age of two years;[1] but from 2 Chron. xxxi. 16 it would appear that he was taken away from the breast when three years old, since children under that age were not admitted into the services of the Temple. The school of Hillel gives the proper weaning age as eighteen months.[2] R. Eliezer advises weaning at twenty-four months, and R. Joshua allows breast feeding up to the age of five years![3] The usual age for weaning seems to have been two years, as can be seen from the following story told in the Midrash:

An Athenian once came to a school in Jerusalem and found the children sitting there without their master. He began to ask them questions, which they answered. Then the children said to him: "Let us ask one another questions, and whoever is unable to answer shall forfeit his belongings." This was agreed, and the children then asked him the following conundrum: "Nine went out and eight came in; then two began to pour out for one to drink, and twenty-four were serving." The man was unable to solve the riddle, and was relieved of his belongings. When R. Jochanan, their teacher, returned, he reprimanded the scholars for ill-treating a visitor, and they told him of the wager. The Rabbi then solved the riddle for the man as follows: "Nine months of pregnancy terminated, and eight days preceding circumcision set in. Two breasts pour out milk for one child to suck, and twenty-four months of lactation serve the child."[4] The man then got his things back.

A nursing widow was not allowed to marry again

[1] J. Taanith iv. 1.
[2] Kethub. 60*b*.
[3] *Ibid.*, 60*a*.
[4] Lam. R. I.

before the child was fifteen months old, lest the occurrence of pregnancy should compel her to wean it after the third month (because of the bad effect pregnancy has upon the milk). Others were more stringent, and did not allow her to marry before the child reached the age of two years.[1] The Talmud further says that a widow cannot remarry simply on weaning the child, because she might wean it before the time in order to marry.[2] On the other hand, although a widower might not get married within three months after the death of his wife, yet, if he was left with little babies that required nursing, he was allowed to marry after the expiration of the seven days of mourning.[3] Once a child has been weaned, it must not be put to the breast again except in cases of danger to the child.[4]

Diet after Weaning.

Milk and eggs formed the principal food of a child after it was taken away from the breast.[5] Honey and butter are mentioned in Isaiah as the food of a child old enough "to refuse the evil and choose the good."[6] Corn and wine are mentioned in the case of older children.[7]

The milk used was that of goats[8] and of sheep.[9] Cow's milk was not much used, probably on account of its scarcity in the mountainous country of Palestine. Warm goat's milk drunk every morning is good for chest trouble.[10] This is an interesting statement, as it is well known now that goats are not subject to

[1] Keth. 60*a* and *b*. [2] *Ibid.*, 60*b*, and Rashi.
[3] Moed Katan 23*a*. [4] Yoré Deah lxxxi. 7, Kethub. 60*a*.
[5] Yebam. 42*b*. [6] Isa. vii. 15. *Cf.* Yoma 75*b*. [7] Lam. ii. 12.
[8] Deut. xxxii. 14. [9] Prov. xvii. 27. [10] B. Kama 80*a*.

tuberculosis. Children used to suck the teats of animals, even of those ritually prohibited—*e.g.*, the ass and the camel—if the child's welfare demanded it.[1] The milk was received in buckets[2] and kept in skins.[3]

The value of milk as an article of diet is mentioned by Ben Sira, who speaks of it as one of the principal things for the whole use of human life.[4] "One who wishes his daughter to be fair," says the Talmud, "should feed her in her youth on young birds and milk."[5] Whey is mentioned in several places,[6] but not in connection with infant feeding.

It is forbidden to use milk of animals suffering from a visible disease, such as would render the animal ritually unfit for human consumption, or that of an animal found post mortem to have suffered from such a malady as late as three days before death.[7] It is possibly for this reason that milk bought from a non-Jew ought not to be drunk unless a Jew watched the milking process, so that one might be sure that the animal was healthy.[8] Milk left uncovered overnight should not, in places where there are reptiles, be used, because of the possible danger of a serpent having left its venom therein.[9] A cowshed must be at least 4 by 6 cubits[10]—*i.e.*, 6 square yards in area.

The Talmud mentions a method of distinguishing between milk from ritually clean and that from ritually unclean animals: the former remains sweet longer than the latter; also the former is white, whilst the latter is yellowish.[11]

[1] Yebamoth 114*a*.
[2] Job xxi. 24.
[3] Judg. iv. 19
[4] Ecclus. xxxix. 26.
[5] Kethuboth 59*b*.
[6] Nedarim 51*a* and *b* and Pessachim 41*b*.
[7] Yoré Deah lxxxi .2.
[8] See Aboda Zarah 35*b*.
[9] Baba Bathra 98*b*.
[10] Chulin 10*a* and *b* and 49*b*.
[11] Aboda Zarah 35*b*.

Mode of Holding and Carrying a Baby.

A baby in Biblical times used to be carried in the bosom, as is evidenced by the following references: "Carry them in thy bosom, as a nursing father beareth the suckling child";[1] "And Naomi took the child (her grandchild), and laid it in her bosom, and became nurse unto it."[2] Other methods mentioned in the Bible are the side and the shoulder. Thus, "Ye shall be borne upon the side, and shall be dandled upon the knee";[3] "They shall bring thy sons in their bosoms, and thy daughters shall be carried upon their shoulders."[4] In Talmudical times the children were also carried in a basket on the back, after the manner of the Egyptians.[5]

Attendants on young children were either men or women. Thus, a nursing father is referred to in Num. xi. 12.

The Evil-Eye.

This is a belief that a glance from certain individuals can injure life or property. According to Rav, out of 100 people, 99 die through the evil-eye.[6] Jacob advised his sons, when they went down to Egypt, not to enter all together at the same gate, on account of the evil-eye,[7] which is particularly liable to do its work in cases of large masses of people. (See also p. 369.) A probable imitation of Catholic exorcism by means of incense is found among Jews, who, in order to do away with the evil-eye in children, light a *habdalah* candle, hold it before the child's open mouth, and extinguish it,

[1] Num. xi. 12.
[2] Ruth iv. 16; see also Lam. ii. 12.
[3] Isa. lxvi. 12.
[4] *Ibid.*, xlvi. 22.
[5] See Schapiro, *loc. cit.*, p. 134.
[6] Baba Metzia 107*b*.
[7] Gen. R. xci.

so as to make the smoke go into the mouth.[1] A piece of bread and salt, or Passover *matzah*, is put into the pockets of particularly beautiful children to protect them from the evil-eye. In olden times children were not taken to a wedding feast, for fear of the evil-eye of the crowd.[2]

A remedy for the evil-eye is for the mother to kiss her child three times, spitting after each kiss. Another protection against the evil-eye was to put the right thumb against the palm of the left hand, and that of the left against the palm of the right.[3] A similar remedy against the evil-eye is still prevalent in Southern Italy,[4] and also existed in Germany in the Middle Ages.[5]

The Child's Sleep.

For some reason the babies, although they had separate cots or cradles, used to sleep at night with their mothers, their own cradles having been used for the day's rest.[6] That cases of overlaying used to occur is seen from the story of the "Judgment of Solomon."[7] In order, however, to guard the child against such accidents, it used to be the custom, and it still is in Eastern Europe, for female visitors to a lying-in woman, especially a primipara, to speak among themselves, in the hearing of the patient, of some imaginary accident that

[1] Grünwald, "Mitteilungen der Gesellschaft für jüdische Volkskunde," 1901, quoted in "Jewish Encyclopædia," article "Evil-Eye," vol. v., p. 280, col. 2.

[2] Lev. R. xxvi. 7.

[3] Berachoth 55*b*.

[4] Clemens, "Sitten und Gebräuche der Italiener," p. 176, quoted by Wunderbar, *op. cit.*, part i., p. 39.

[5] Scheffel, Ekkehard 120, quoted by Preuss, *op. cit.*, p. 160.

[6] Jer. Makkoth ii. 4.

[7] 1 Kings iii. 19: "And this woman's child died in the night because she overlaid it."

had recently happened to babies as a result of some carelessness on the part of an inexperienced or careless mother. The following medieval story is told of a woman who accidentally suffocated her baby in bed: She went to a Rabbi to ask how she could atone for her sin, and he advised her to fast eighty-four days on consecutive Mondays and Thursdays. She went to another Rabbi, and told him her sin and the punishment imposed upon her. He pooh-poohed the idea of her fasting, and ordered her instead to eat and drink particularly well on the days on which the first Rabbi advised her to fast. When asked by the bystanders the meaning of such an extraordinary penance, he explained as follows: "This woman has sinned because she has destroyed a life. She has already had sufficient punishment from the moral torture and anguish she has gone through at the loss of her child, and the only just and equitable reparation she can make is to make good that loss. If she eats and drinks well, she will very soon give birth to another child; but if she starves herself, not only will she become too ill to do that soon, but she will lose her beauty, and with it her husband's love, and may therefore never give birth to another child again."[1]

The cots were made either of wood[2] or of glass,[3] and had very short legs, which were firmly fixed into the floor, for the greater safety of the child.[4] Swinging cradles were, however, most commonly used.[5] These had attached to them little bells, whose monotonous

[1] "Sifethee Tzaddikim," quoted by Solomon Feinerman, "The Sources of the Anecdotes about the Wonder-Rabbis," *Hashiloah: Litterarisch-Wissenschaftliche Monatsschrift*, vol. xxi., Odessa, 1909, p. 440.

[2] Gen. R. xci. 10.

[3] Tosefta, Kelim.

[4] Oholoth xii. 4.

[5] Gen. R. liii. 10.

sound produced by the swinging helped to induce sleep.[1] A piece of waterproof material was placed under the child to keep the bedclothes clean,[2] and as soon as the child was able to sit up it was dressed up in a leather pinafore, to guard it against scratches by a cat.[3] When the child was asleep, a fan was used to keep away the flies.[4] In certain places the head of a newly-born baby was rubbed with a piece of dough containing the juice of unripe grapes, in order to keep away harmful insects.[5] "No child is to be left alone in its cradle by day or by night." This was the injunction given by R. Eliezer the Great to his son Hyrcanus.[6]

In some places the smiling of a child during sleep indicates the receipt of golden fruit by the child from a good angel with whom it is playing. In other places it indicates playing with Lilith (especially during the night of the Sabbath or new moon), and the child should be woke up.[7]

No baby may be frightened by saying that there is a cat or a dog coming to take it away.[8] "A baby should be as well looked after as a king, high priests, and learned men,"[9] is a saying which reminds one of the well-known picture "His Majesty the Baby."

In Jerusalem a cock was once stoned to death because he picked the brain of a new-born baby through the pulsating fontanelle, having mistaken it for an insect.[10]

[1] Tosefta, Kelim Metzia i. 21. *Cf.* Sabb. 58, Rashi.
[2] Kelim xxvi. 5.
[3] *Ibid.*
[4] Chulin 91*b*, Rashi and Maharsha.
[5] Gen. R. xxxiv. 15.
[6] The Last Will of R. Eliezer Hagadol xl.
[7] See article "Lilith" in "Jewish Encyclopædia."
[8] Kitzur, Shulchan Aruch xxxiii. 34.
[9] Yellinek Beth Hamidrash ii. 96.
[10] Edyoth vi. 1.

Growth of a Child.

It is superstitiously believed that if you step over a child it will stop growing; to make it resume growing, recross it. For investigations of the rate of growth of Jewish children, see Chapter XXV.

Lullabies.

The ambition of all Jewish parents is to see their sons grow up learned men, and their daughters good housewives and happily married. This ambition is expressed even in the lullabies with which the Jewish mothers sing their children to sleep. The following (quoted in Schechter's "Studies in Judaism") is a beautiful translation, by Mrs. Helen Lucas, of a typical cradle song for a boy:

Oh, hush thee, my darling, sleep soundly, my son;
Sleep soundly and sweetly till day has begun.
For under the bed of good children at night
There lies, till the morning, a kid snowy white.
We'll send it to market to buy *sèchorah*,[1]
While my little lad goes to study *torah*.[2]
Sleep soundly at night, and learn *torah* by day;
Then thou'lt be a Rabbi when I have grown grey.
But I'll give thee to-morrow ripe nuts and a toy,
If thou'lt sleep as I bid thee, my own little boy.

The following pretty song is one used for a girl:

Schlof, mein feigele,	Sleep, my birdie,
Mach tzu dos eigele;	Close your eyes;
Schlof, sich ois, mein kind;	Sleep, oh sleep, my child;
Du schlofst mit freid.	Sleep with joy.
Du weist nit kein leid;	You know no sorrow;
Schloff, sich ois gesund.	Sleep with health, my child.

[1] Merchandise [2] Knowledge.

Du west aufstehen fun wieg
Hostu arbeit genug,
Far dir ongregreit atzund:
Stricken schichalach,
Lesen bichalach;
Schlof derweil, mein kind.

When from your cradle
You will get up,
There's plenty of work for you:
To embroider shoes,
To read little books;
But meanwhile sleep, my child.

Du west a kook ton fun der seit
Stehen yunge leit,
Reich gekleit und schein;
Dich wellen sei lieben,
Presenten geben;
Solstu sogen nein.

When aside you will glance
Young men will advance,
Good-looking and of good address;
Their love they will proffer,
And presents will they offer;
But don't hasten to say "Yes."

Di eltern sollen leben
Wellen in nadn dir geben
Toisenter a sach.
Chosen mit kalele
Wellen sich kushen in mailele,
Mir wellen sich freien gleich mit eich.

Your parents that love you
As a dowry will give you
Many thousands in cash.
Bride and bridegroom
Each other will kiss,
And we shall take part in your joy.

Du west hoben a kleins,
A feins und a sheins;
West es lieben wie ich lieb dich,
West es auskuschen yeder glidele,
Du west es singen dos liedele:
Schlof, sich aus gesund.

You will have a little one,
Perfect and beautiful;
You will love it as I love you,
You'll kiss each little limb,
And you'll sing this song to him:
Sleep, oh sleep, my child.

The following are other attempts, by an anonymous author in the *Jewish Chronicle* of July 21, 1916, at rhymed translations of the cradle songs with which the Ghetto mother sings her baby to sleep. As the translator remarks:

"One cannot compare them with our native cradle songs, such as those that tell of baby rocked gently on the tree-tops, or some such melodious melody that is soothing in its very meaninglessness. Here, in her unmusical sing-song, the foreign mother of the Ghetto

permits her ambitions for baby's future to soar to quite giddy heights. Boy or girl, she visualizes its future, sings to it a song of fame and fortune, lovers and marriage. On the canvas of her imagination she limns a picture of her little one making his or her way to the marriage canopy.

"If baby is a girl, mother croons a song such as this, though nothing could so charm as the original Yiddish version:

Sleep's guardian angel
Watchfully by,
His wings protect you
Till morning's nigh . . .

And soon from your cradle,
Life's labour to do,
And learn to be clever,
To 'broider sweet shoes.

So sleep on, my darling,
And soon, by-and-by,
Your cheeks will bloom roses,
O sweet baby mine!

So dainty, so handsome,
Of lovers galore,
My child, they'll adore you:
Could lass wish for more?

"And so the Ghetto mother weaves bright fancies around the career of her baby. Here and there one cannot help observing how steadfastly these cradle songs have kept to their original wording, untroubled by fashion's frequent changes:

And so, my little maiden,
You'll wear a crinoline,
Eclipse them all, at the stately ball
A lover you shall win.

"No less hopeful are the cradle songs when baby is a boy:

My Yankele shall learn the Law,
  The Law shall baby learn;
Great letters shall my Yankele write,
  Much money shall he earn.

A pious Jew will Yankele be,
  A son of Israel true—
A worthy father, husband, son,
  A good and pious Jew."

RAISINS AND ALMONDS (ROZHINKES MIT MANDLEN).

A cradle song with music from the Yiddish Opera "Shulamith," by Abraham Goldfaden.[1]

In this charming song the daughter of Zion (Bath Zion) is represented as a widow rocking her only orphan child, the Jew (Jüdele), to sleep.

Andante.

In dem Beth Ha - mik - dosh in a - win - kel
che - der sitzt die al - mo - noh Bath Zi - on a-
lein ihr ben - jo - chi - del Jü - de - le weigt sie ke-
seh - der und singt ihm zum schlo - fen a lie - del - e
schön; al - la al - la! Un - ter Jü - de - les

[1] Reproduced by kind permission of Messrs. R. Mazin and Co., Ltd., 141, Whitechapel Road, London, E.

wie - - - ge - le.......... steht a klor - weiss

zie - - - ge - le.......... dos zie - ge - le is ge-

foh - - - - - ren hand - len........ dos wet

sein dein be - - ruf.............. ro - zhin-

kes.............. mit mand - len........ schlof - sze

Jü - de - le schlof........

Dr. Elkan Isaac Wolf, in a book written in 1777, gives several very instructive directions regarding child hygiene (Grünwald, "Hygiene der Juden," p. 266). The child's bedroom must be ventilated three times a day, and he specially mentions that the baby's wet clothes must not be left in the room. He enjoins absolute cleanliness of the child by means of frequent washing, and advises the use of cold baths. Children, however

young, are to be taken out in the open air even in winter. Proper covering of the body is recommended, but he speaks against coddling. He, in accordance with modern views, forbids the over-indulgence of children in sweets and other dainties.

Congenital Malformations.

Imperforate anus and hypospadias are mentioned, and operations to remedy these defects are described.[1] Congenital absence of the prepuce is also mentioned. Moses and Job are said to have been born with this condition (circumcised).[2] See also chapter on Embryology.

Playing with Children.

The story is told of a man who left a clause in his will saying that none of his belongings should go to his son until the latter made a fool of himself. R. José, the son of Judah and Rabbi, went to consult R. Joshua ben Korcha about this extraordinary clause. When they came within a short distance of his house, they were astonished to see R. Joshua, through the window, crawling upon all fours on the floor, with a piece of grass in his mouth, playing horses with his little boy. They came and laid the case before him, and then questioned him about his curious behaviour. He laughed, and answered: "Why, the very thing that was stipulated by the dead man has just happened to me." When a man has children, he often makes himself look foolish for their amusement.[3]

[1] Sabb. 134*a*, Yebam. 76*a*.
[2] Sabb. 135*a*, Yebam. 71*a*, Sotah 12*a*.
[3] Gen. R. lvii., and Shochar Tov xcii.

The Rights of Illegitimate Children.

If the father of an illegitimate child is known, the latter is his lawful heir.[1]

An illegitimate boy must be circumcised on the eighth day, even if it happens to be the Sabbath-day. In Talmudic times the illegitimate child of a learned man took precedence over the High Priest, if the latter was an ignorant man;[2] but in later times it became the custom to give the precedence to the priest.[3] Every illegitimate child was proclaimed as such, in order that no marriage might be contracted with him or her later on.[4]

In cases of doubt regarding the legitimacy of a child, it was given the benefit of the doubt. Thus, a child born twelve months after the departure of the woman's husband is still considered legitimate (see p. 110), and later legislators even wished to legitimatize a child born after that interval, on the assumption that the husband returned privately in the interval.[5]

If an evil rumour has been spread about a woman, her children are still considered legitimate.[6] Even if a woman definitely says that the child is not from her husband, she is not believed;[7] but if the husband says that the child is not his he is believed, according to some authorities, although the sages decided that he is not to be believed.

[1] Yebamoth 42*a*. [2] Horyoth 13*a*.
[3] Shulchan Aruch, Orach Chayim cxxxviii.
[4] See article "Mamzer" in Ozar Israel, vol. vi., and Maimonides, Issuré Biah., xcvi
[5] Tizr. Eben Haëzer iv. [6] Sotah 27*a*.
[7] Yebamoth 47*b*, Kiddushin 78*b*, Baba Bathra 127*a*.

CHAPTER XIII

RELIGIOUS CEREMONIES IN CONNECTION WITH A BABY

"Turnus Rufus (the Roman general) one day put the following question to R. Akiba: 'Why has God not made man just as He wanted him to be? Why, for instance, has He commanded you to go through the operation of circumcision? Could He not cause the child to be born circumcised?' And R. Akiba answered: 'Everything that God has created was purposely made incomplete, in order that human ingenuity may perfect it. Take, for instance, the acorn and the cake that is made from it; the cotton plant and the beautiful garments that are made from it. Man is born uncircumcised because it is the duty of man to perfect himself'" (Pesiata R. and Tanchuma on Tazria).

Circumcision.

EVERY Jewish male child is circumcised on the eighth day of his birth, even if that day happens to be the Sabbath;[1] but if for any reason, such as bad health of the child, this rite is postponed, it must not take place on the Sabbath-day. For the operation to be performed, the child must be in a perfect state of health. Its weight must be not less than 7 pounds, it must have a healthy colour, its finger-nails must reach the tips of its fingers, it must have a healthy, strong voice, and be able to suck properly. The reason assigned by the Talmud for fixing the age of the child at eight days, and not earlier, is that the rite should not be carried out

[1] Sabbath 131*a*, *b*.

at a time when everybody is merry-making, whilst the parents are in sorrow on account of the impurity of the mother.[1] (See p. 186.)

The Ceremony.

The day of the operation is spent as a semi-festival. The room is specially decorated, and the guests are dressed in their best clothes. It is the custom to have at least ten adult males in the room—*i.e.*, eight in addition to the operator (or *mohel*) and the godfather (or *sandek*). When the baby is brought in, the people say, "Baruch haba" (Blessed be he that cometh). The numerical value of the letters of *haba* (הבא) is 8, to indicate that the operation has to be done on the eighth day. The child is laid on a vacant chair, called the "chair of Elijah," on the right of the godfather, reserved for Elijah the prophet, who is called the Angel of the Covenant,[2] because he fought for this rite at a time when the kingdom of Ephraim had given it up, and he was therefore promised by God that He will always be present when that operation is performed.[3] The letters of *haba* form the initials of the Hebrew for "Here comes Elijah." Next to Elijah's chair sits the godfather, who then receives the child from the *mohel* on his lap. Whilst operating the *mohel* recites the following benediction: "Blessed art Thou, O Lord our God, King of the Universe, who hast sanctified us by Thy commandments, and hast given us the command concerning circumcision." The father says immediately after: "Blessed art Thou, O Lord (etc.), who hast commanded us to make our sons enter into the covenant of

[1] Nidah 31*b*. [2] Pirke R. Eliezer xxix. [3] *Ibid.*

Abraham our father." Those present respond: "Even as he has entered into the covenant, so may he enter into the law, the nuptial canopy, and into good deeds." After that the *mohel* offers a benediction over a cup of wine, and at the same time gives the child its name. All those present stand up throughout the ceremony, excepting the godfather. After the ceremony there is generally a standing lunch or a sit-down banquet. In some cases it is the custom to place a Bible in the child's cradle, and to say: "Let him perform everything that is written here." In other places, also, one puts a pen in the child's hand, to signify the wish that the child may grow up a diligent student. As regards the name of the child, it is the custom among Ashkenazi (German) Jews to call it after a deceased relative or great man, but never, as is the case among Gentiles, after a person who is still alive. Among the Sephardim (Spanish and Portuguese Congregation), however, it is not unusual to name the child after its living parent (see next chapter).

Contra-Indications to Operation.

No harm may come to the child as a result of this operation, and therefore it is enjoined that, if the child show the slightest traces of ill-health—*e.g.*, rise of temperature, however temporary, changes in the colour of the skin, including jaundice, the operation must be postponed. Thus, R. Nathan said that on two occasions women, each of whom had lost two children as a result of circumcision, brought their third child to him. He examined the child in each case, and found that in one case its colour was red, and in the other case green, and he advised postponement of the operation until the children assumed a natural colour. They did so, and

when the children were subsequently circumcised they lived. As a sign of gratitude, each of them named her child Nathan the Babylonian after him.[1] Hæmophilia was another contra-indication, and therefore if two children of the same mother, or one child of each of two sisters, dies as a result of circumcision, the next child or the child of the third sister must not be circumcised;[2] for the Talmud explains that there are certain families whose blood is *weak* and not coagulable. From these details it is obvious that it refers to hæmophilia, which, of course, is transmitted *through* females to males.

The preparations for the ceremony commence on the preceding Friday evening. The relatives and friends of the parents meet at the house, where they are entertained and where they have Talmudical or other learned discussions, and the following benediction from Genesis is recited: "The Angel which redeemed me from all evil, bless the lad; and let my name be named on them, and the name of my fathers Abraham and Isaac; and let them grow into a multitude in the midst of the earth."[3] This ceremony is called Shalom Sochor (or "peace unto the son").

According to Maimonides and the Shulchan Aruch, the operation, in case of hæmophilics, should be postponed until the child grows up; but, as has been pointed out by Ezechiel Landau (quoted by J. Preuss, *loc. cit.*, p. 285), there is no place in the Talmud indicating that such should be the case. On the contrary, the Mishna speaks of a priest who remained uncircumcised in consequence of the fact that two of his brothers died of the operation (Yebamoth viii. 1 and Rashi, *ad loc.*). *Cf.* also Tosafoth to Zebachim 75*a*.

[1] Sabbath 134*a* and Chulin 47*b*. [2] Yebam. 64*b*. [3] Gen. xlviii. 16.

In the case of so-called congenital absence of prepuce, the operation cannot, of course, be carried out; but, still, "as a sign of the covenant," it is necessary to prick the penis, in order to let a drop of blood come out. The Talmud is, however, not quite certain that such a congenital abnormality really exists. It is believed that such cases are probably cases of retracted fore-skins, and careful examination should be made to find the prepuce. (Compare Tur Yoré Deah cclxiii.)

Who does the Operation?

Although the duty of circumcising belongs to the father,[1] he can and usually does relegate it to a stranger. Instances are recorded in the Bible where mothers performed this rite on their children. Thus, Zipporah, the wife of Moses, circumcised her son Gershom by means of a sharp stone.[2]

In the time of the Talmud specially qualified surgeons were appointed for this operation.[3] In fact, a "Circumcision Street," where professional circumcisers lived, is mentioned in the Talmud.[4] At the present time it is done by laymen, who must receive special training in asepsis and technique at the hands of a doctor appointed by the ecclesiastical authorities. No Gentile may perform this rite, except when there is nobody else available.[5]

The Qualifications of a "Mohel," or Circumciser.[6]

1. He must, when possible, be a Jew.[7]
2. He must be able to perform the operation quickly and dexterously.

[1] Kiddushin 29*a*. [2] Exod. iv. 25. [3] Sanhedrin 17*a*.
[4] Jer. Erubin v. 5. [5] Aboda Zarah 26*b*.
[6] See article "Milah" (*mohel*) in Ozar Israel. [7] *Ibid.*, 26*a*.

3. He must have a steady hand.

4. His sight must be good, and one who wears glasses should, according to strict law, be disqualified.

5. He must perform this operation gratuitously, but his actual out-of-pocket expenses—*e.g.*, travelling, etc. —must be refunded. The term "out-of-pocket expenses" is very elastic, and is usually stretched by the *mohel* to the fullest possible extent.

Origin of the Rite.

"To whom belongs the honour of priority of practising the operation, the Jews or the Egyptians?" is a subject about which a good deal of controversy has raged.

Most of the investigators, relying upon the evidence of the famous Greek historian Herodotus, have come to the conclusion that the operation was first introduced by the Egyptians, and that Abraham, who came into trading contact with Egypt, adopted the custom from that land. Herodotus, who lived in the fifth century B.C.—*i.e.*, about 1,500 years after Abraham and 1,000 years after Moses—stated that "the Colchians and the Egyptians are the only people who practised circumcision from the remotest antiquity; for the Phœnicians and the Syrians in Palestine (? Jews) confess that they have received it from the Egyptians."[1] There is, however, reason to doubt the reliability of his statement, since he only wrote what was told him by the biased Egyptian priests, who were eager to show that Egypt was the mother of all sciences and customs. Moreover, if it were true that Abraham copied the custom from the Egyptians, then its retention by the Jews as one of

[1] "Historia," lib. ii. 36, 37, 104, quoted by Dr. Asher, "The Jewish Rite of Circumcision," London, 1873, p. 17.

the most sacred precepts would be altogether inconsistent with the Biblical injunction not to do "after the doings of the land of Egypt."[1] It is also difficult to understand why Abraham should have waited twenty-four years after his return from Egypt before he circumcised himself. The Midrash records that during the Egyptian famine Joseph refused bread to the Egyptians until they became circumcised.[2]

It is true that Welcker has shown that Egyptian mummies of 1614-1555 B.C. reveal unmistakable evidence of that operation,[3] and according to V. Autenrieth the operation was practised in Egypt as early as 2000 B.C.—*i.e.*,[4] about the time of Abraham. But there is no evidence to show that the Egyptians practised it before that time. Indeed, the fact that the Egyptian bas-relief discovered at Karnac shows that the operation was performed on boys ten or twelve years old, whilst the Jews perform it on the eighth day, would seem to show that the latter did not copy the operation from the former.

As further evidence that the honour of priority belongs to the Jews, we have the fact that the Philistines, who were descended from the Egyptians, were uncircumcised.[5] David, for instance, brought Saul 200 foreskins of slain Philistines.[6] This was 700 years before Herodotus. Moreover, the Egyptians themselves were apparently uncircumcised in the time of Ezekiel.[7]

Origen, who lived in the third century A.D., and was

[1] Lev. xviii. 3.
[2] Gen. R. xci. 5, and xc. 6.
[3] H. Welcker, *Arch. f. Anthrop.*, 1878, vol. x., p. 623.
[4] "Abhandlung über den Ursprung der Beschneidung," Tübingen, 1829.
[5] Judg. xv. 18, 1 Sam. xiv.
[6] 1 Sam. xviii. 27.
[7] Ezek. xxxii. 19, 21, 32; see also Jer. ix. 26.

himself an Egyptian, distinctly states that the practice was not general among the Egyptians, but was confined to the geometricians, astronomers, and divines.[1] Again, if the custom was originally Egyptian, then the notorious Jew-hater Apion, who lived in Egypt about A.D. 100, would hardly have ridiculed the operation in the way he did.[2]

Objects of the Operation.

It is not within the province of this book to discuss in detail the different theories that are held regarding the original object of the operation. Suffice it to say that there are several schools of thought.

(*a*) According to one, it is a pure **tribal** mark, like the knocking out of the front teeth in the case of the heroes of Africa.

According to this theory, which is in agreement with the reason given for it in various places in the Bible, it is a *sign of the covenant* between God and the Jews,[3] and is meant to be a mark of distinction between Jews and non-Jews. Maimonides[4] states that not only does circumcision aim at the diminution of the carnal appetite of mankind, but that it is absolutely necessary for the Jews to have some unmistakable sign whereby to recognize one another.

Rabbi Bechaya a d Spinoza expressed similar views, as did also the non-Jewish writers Tacitus, Augustine, and others. John Spencer, indeed, says that the reason why the Jews did not circumcise themselves in the

[1] See Asher, *op. cit.*, p. 20.

[2] See Samuel Kohn, "Die Geschichte der Beschneidung bei den Juden," Krakau, 1903, p. 16.

[3] Gen. xvii. 2.

[4] Moré Nebuchim iii., ch. 49.

wilderness is because, not having mixed with other people, they had no need for the operation.[1]

The only points against this theory are—(1) The fact that the corresponding operation of clitoridectomy in girls is not practised by Jews, as it is among some races of mankind (such as the Southern Arabs, the Egyptians, and the Abyssinians), who practise circumcision on boys. It is, however, to be noted that the Jewish sect called the Falashas do practise clitoridectomy.[2] (2) Non-Jewish slaves had to be circumcised to enable them to partake of the Pascal lamb.

(*b*) According to another school, the rite has a **sacrificial significance**—viz., it is meant to be a substitute for human sacrifices.[3]

Mention of the sacrifice theory is made in the Midrash, as well as in the writing of R. Bechaya and in Pirke R. Eliezer. The Midrash says that circumcision represents the offering of one-tenth that is given from products of the land, and hence it is performed at the place of reproduction.[4] R. Bechaya says that circumcision represents sacrifice, and as the blood of a sacrifice atones, so does the blood of circumcision; and as a sacrifice is not accepted by God until the eighth day, before which day all born were considered unclean (Lev. xxii. 27), so also must circumcision take place on the eighth day. Also, as in the case of a sacrifice, it is the eating it that atones, therefore it is necessary to have a repast at the circumcision ceremony.

[1] John Spencer, "De Legibus Hebreorum Ritualibus" ("De Circumcisione"), 1743.

[2] Andrée, "Zur Volkskunde der Juden," p. 84.

[3] See Daumer, "Der Feuer- u. Molochsdienst," 1842; and Ghillany, "Die Menschenopfer," 1842.

[4] Gen. R. xliv.

The Pirke R. Eliezer says that circumcision is even more acceptable than a sacrifice, since the latter is an offering procured by money, but the former is made from one's own body (compare Rom. ii.).

(*c*) According to the third school, the operation has a purely utilitarian object—viz., cleanliness and protection against evil spirits.

Strabo, who lived at the beginning of the first century, believed that circumcision was a protection for the child against evil spirits, as did also Origen. Origen based his theory on the story in Exodus, where it is narrated that an angel met Moses and wanted to kill his uncircumcised son, but left him after Zipporah circumcised him.

A hygienic object was first ascribed to the operation by Philo, who wanted to reconcile Biblical precepts with contemporary Greek culture. In his book on Circumcision he gave three reasons for the establishment of the operation among the Jews—viz.:

1. A prophylactic against local carbuncle, which was considered dangerous to life (? phagedæna).

2. Cleanliness. Herodotus believes this to have been the object of the operation among the Egyptians.

3. As an aid to reproduction. As a proof in favour of this, Philo mentions as a fact that nations that are not circumcised are not as fertile as those that are circumcised. This is, however, not borne out by facts, for the Mussalmans are not so fertile as uncircumcised nations.

Whatever may be said against this theory, there cannot be any doubt that the results are highly salutary. It does away with all the evils resulting from phimosis and paraphimosis, and is therefore good for the

individual. But its value from the point of view of public health is still greater. Thus, statistics collected at the Metropolitan Hospital in 1854 showed that, among the out-patients during a certain year, the proportion of Jews to Christians was 1:3; but the ratio of cases of syphilis (a disease in which the sins of the fathers are visited also upon the children) was 1:15. That this is not due to the superior chastity of the Jews is shown by the fact that the proportion of gonorrhœa (a disease not transmitted to the next generation) amongst Jews and non-Jews was 1:2. Breitenstein and Lob obtained similar results. The former examined 15,000 circumcised and 18,000 uncircumcised soldiers, and found the percentage of syphilis five times as great amongst the uncircumcised as amongst the circumcised. The latter examined 468 circumcised and 2,000 uncircumcised, and found the uncircumcised to be suffering two and two-third times more proportionately from syphilis.[1] My own experience is in agreement with these statistics. Also at the Metropolitan Hospital during 1882-83 the figures for syphilis were as follows (Jacobs, "Jewish Statistics"):

	Jews. Per Cent.		*Non-Jews.* Per Cent.
Men	17·8	..	62·0
Women	20·0	..	62·6
Children (congenital syphilis)	3·3	..	15·8

The real object of circumcision in its primitive form seems to have been one connected with a preparation for marriage, and according to certain opinions the ancient Hebrews followed the more primitive custom of undergoing circumcision at puberty, but after their settlement in Palestine the rite was transferred to the eighth day.[2]

[1] *Monatsschrift f. Harn-Krankheiten*, Heft 6, 1904.

[2] For full discussion see Ploss, "Das Kind."

Those races which still practise circumcision—*e.g.*, the Mohammedans, etc.—perform it at the age of puberty; but the Jews have wisely transferred it to early infancy, because at that age the severity of the operation is least felt.

The Technique of the Operation.

The ritual method of performing the operation consists essentially of three stages, as follows:

1. Amputation of prepuce, pulled over in front of the glans. This is called *chitooch.*

2. Denudation—that is, tearing or splitting of the mucous membranes (*i.e.*, inner layer of stump of the prepuce as far as the corona). This is called *periah.* Circumcision without denudation is not sufficient, from a religious standpoint.[1] Opinions are not agreed as to who introduced this denudation process of *periah.* According to some it was introduced by Joshua, whose injunction (Josh. v. 2) to circumcise the children of Israel a second time is interpreted as referring to *periah.*[2] According to others it was already practised by Abraham;[3] others, again, attributed this act to the time of the Maccabeans (1 Macc. i. 15).

3. Suction of the wound, or *m'tsitsah.* The strictly orthodox method of performing suction—a method which is still practised in some parts of the world—is for the operator to take a mouthful of wine, and then place the glans in his mouth and suck the blood out of it three times. The object of the suction seems to have been medical rather than religious. Thus, Rav Papa said that an operator who fails to use suction *causes the*

[1] Sabbath 137*b*. [2] Yebam. 72*b*. [3] Yoma 28*b*.

infant to run a risk, and should be deprived of the right to perform the ceremony.[1] Maimonides explains this act as having a tendency to deplete the vessels in the vicinity of the wound, and thus arrest hæmorrhage by the consequent constriction of those vessels.[2]

In recent times great opposition was raised against sucking the wound with the mouth; for it is obvious that a healthy child can be infected from a diseased *mohel,* and *vice versa.* As suction, however, is purely a precaution rather than a religious step, the Rabbis have in modern times sanctioned the use of a special apparatus for this purpose, which is now almost universally used.

4. The wound is washed and bandaged.

Opposition to the Operation.

"Circumcision," says a Rabbi, "is one of the commandments which, having been accepted with joy, are ever obeyed with joy, and, because the people gave their lives for them, are observed with steadfast loyalty."[3] This refers to the persecution directed by the Greek and Roman Governments, in ancient times, against this operation.

The first Emperor who issued a decree against circumcision was Antiochus Epiphanes.[4] The Jews in spite of that decree performed the operation, at the risk of losing their lives.[5] After the destruction of the second Temple, Titus instituted a tax on the operation, called "fiscus Judaicus," and Jews who tried to evade the tax by concealing their religion were stopped in the

[1] Sabbath 133*b*. [2] Maimonides, Hilchoth Milah iv. 2.
[3] Sabbath 130*a*. [4] Hasmoneans i. 47.
[5] Taanith 18*a*, Baba Bathra 60*b*

street and publicly stripped, to be examined for evidence of circumcision.

Suetonius records having seen an old man of eighty stripped in the street for that purpose.[1]

The Talmud narrates that the Roman Government once issued a decree that the Israelites should neither observe the Sabbath nor circumcise their sons nor observe the laws of impurity of women. Thereupon a clever Jew (Reuben ben Astrobulus) disguised himself as a Gentile, and went to the Roman senators, and said: "If one has an enemy, does he wish him to be poor or rich?" "To be poor," was the reply. "Then," he argued, "will he not be poorer if you prohibit him from working one day in the week?" "It is well said," observed the senators, and they there and then abolished the decree about the Sabbath. "Does one wish one's enemy to be weak or strong?" was the next question. "Why, weak to be sure," was the inevitable answer. "Then let the Jews circumcise their children; and they will be weakened." "The argument is sound," said the senators, and they immediately rescinded the decree against circumcision. He then asked, "Does one wish one's enemy to increase or decrease?" "To decrease, of course," was the answer of the senators. "Then let the Jews observe the laws of Nidah." The senators agreed with the argument, and repealed that particular decree. When the senators found out that they had been deceived by the ruse of a clever Jew, they immediately re-enacted those decrees. It then came to pass that the Emperor's daughter became very ill, and R. Simeon b. Yochai, who was reputed as experienced in miracles, cured her by

[1] "Domitiani Vita," cap. xii.

exorcising the evil spirit. As a reward he was admitted into the imperial treasury and bidden to choose what he pleased. Seeing the document containing the decrees against the Jews, he chose it and tore it into pieces.[1]

Rabbi Judah the Prince was born at the time when there was the decree against the operation, but his father, disregarding the decree, had the little child circumcised. This was reported to the Emperor, who ordered the child to be brought to him for examination. But R. Judah's mother and the Empress were great friends, and the latter, having only recently given birth to a son (Antoninus), temporarily exchanged children with R. Judah's mother in order that the latter might escape punishment.[2]

In the Middle Ages the Jews were not molested with regard to the operation, but in the beginning of the nineteenth century various Governments, with the object of minimizing any risks to the child, instituted certain rules under which the operation was to be performed.

In 1799 the Prussian *Obercollegium Medicum* recommended that the operation be performed by experts approved by the Government, but the recommendation was not adopted.

In 1819 the Prussian Government decreed that circumcision was to be done by qualified doctors only. It would not serve any useful purpose to enumerate all the various Government orders regarding circumcision. A full account of these is given in Dr. Samuel Kohn's book, to which the reader is referred.[3]

[1] Meilah 17*a* and *b*. [2] Aboda Zarah, 10*b*, Tosefoth, *in loco*.

[3] "Die Geschichte der Beschneidung" (in Hebrew), Krakau, 1903.

CHAPTER XIV

NAMING THE CHILD, AND OTHER CEREMONIES

"Man has three names: one by which his fond parents call him, another by which he is known to the outside world, and a third, the most important of all, the name which his own deeds have procured for him" (Tanchuma, Vayakhel).

In the case of boys the name is, as we have already seen, given to the child at the circumcision ceremony, imdiately after the operation. The *mohel* offers up a benediction over a cup of wine, and, standing at the side of the child, recites the following prayer:

"Our God, the God of our fathers, preserve this child to his father and mother, and let his name be called in Israel . . . the son of . . . Even as he entered into the Covenant, so may he enter into the Law, the nuptial canopy, and into good deeds."

It is not clear from the Biblical account whether the name was given to the child on the occasion of circumcision. Indeed, nowhere in the Old Testament is a definite date mentioned for the giving of the name, but according to some the child is named at the ceremony in memory of the change in the patriarch's name from Abram to Abraham. In the New Testament we find that Jesus was given His name at the ceremony.[1]

In the case of a girl the name is given to it after it is three days old. The father is called up to the Law in

[1] Luke ii. 21.

synagogue on the Monday or Thursday immediately following the day of birth, provided there has been an interval of three days, when a prayer is offered up for the mother and child, in the course of which the latter is given its name.

The Choice of a Name.

The name chosen for the child is that of a deceased close relative or other prominent man, although among the Sephardim it is not even now unusual to name the child after its living parent, as used to be the Jewish custom in ancient times.[1] It was only after the thirteenth century that the custom arose of naming a child after a deceased relative. Under the twenty-one Kings of Judah no person bore the name of any of his ancestors. An instance of a child being named after its grandfather is found in the Bible in the case of Ahimelech, the son of Abiathar, the son of Ahimelech.[2] To commemorate two or more dead relatives, the child is given more than one name. This custom dates from the fifteenth century, although it was rare before the seventeenth century.

The Talmud recommends the naming of a child after a Jewish patriarch or other Jewish celebrity, but not after any Jewish enemy or oppressor. Thus asks the Midrash: Have you ever seen a person who named his son Pharaoh, Sisera, or Sennacherib? But he calls him Abraham, Isaac, Jacob, Reuben, and Simeon.[3] In many countries Jews were not, till very recent times, allowed to bear Christian names.

The Talmud tells a story about Doag ben Joseph,

[1] Sabbath 134; see also Luke i. 59, where the first-born son of Elizabeth received the name of his living father, Zacharias.

[2] 2 Sam. viii. 17.

[3] Gen. R. xli. 1; also Sabb. 134 and Rosh Hashana 18*a*.

whose mother loved him so much that she made a daily donation, to the Temple, of the child's weight in gold. In the end, however, she was compelled to kill him and eat his flesh. All this came to pass because his name was the same as that of the wicked Doag the Edomite.[1]

At one time it was thought that the character of an individual was determined by his name.[2] It is said that R. Meir once came to an inn and asked the proprietor his name. "Kidor is my name," was the answer. "Then," said R. Meir, "I know that the person is a rogue, and not to be trusted," because the sentence in the Bible, "for they are a very froward nation" (Deut. xxxii. 20), commences in Hebrew with the words *Ki dor*. R. Jehuda and R. José, however, who accompanied R. Meir, did not attach any importance to the name, and entrusted the innkeeper with their money, the receipt of which he afterwards denied.[3] No heathen names were ever given, but foreign names were quite common, as they are now. Thus, the Talmud states that if a bill of divorce comes from over the seas, witnessed by people with non-Jewish names, the divorce is valid, "because the majority of the Jews in foreign lands have non-Jewish names."[4]

Occasionally we find foreign names translated into Hebrew—*e.g.*, Justus becomes Zadek (which means "righteous"), Ariston becomes Tebi (which mea s "good"), Philo becomes Yedidyah (meaning "beloved of God"), Theodore becomes Mattathias ("gift of God"), etc. In medieval and modern times the process has been reversed. A child that has been named, for instance, Chayim (which means "life") is called

[1] Yoma 38*b*.
[2] Berachoth 7*b*.
[3] Yoma 83*b*.
[4] Gittin 11*b*.

Vivian. In the Middle Ages he used to be called Vital, which was afterwards corrupted into Faitel, a name which is fairly commo in Eastern Europe. Similarly, Melech (which means "king") becomes Reginald, and Malkah (which means "queen") becomes Queenie or Regina or Reine. Sometimes, instead of translating the name into its foreign equivalent, a foreign name is chosen which sounds like or begins with the same letters as the Hebrew name. Israel or Isaac becomes Isidore, Mordecai becomes Marcus, or Montagu, and so on. Sometimes the change from the original Hebrew to the foreign name goes through both metamorphoses. For example, Zëeb becomes first translated into its equivalent Wolf, and is then transformed into William or Walter.

The following is a list of Jewish foreign names from the earliest time to the present day:

1. *Aramaic:* Abba, Acha, Shammai, Tanchum, Martha, etc.

2. *Greek:* Alexander (now commonly abbreviated into Sender), Antigonus, Aristobulus, Aristo, Hyrcanus, Nicodemon, Theodorus (now commonly corrupted into Todros), Phœbus (which has been corrupted into Faivash or Faivel), etc.

3. *Arabic:* Malluch.

4. *Persian:* Rafram, Papa.

5. *Latin:* Agrippa, Rufus, Titus, Beruria (which is a corruption of Veluria).

6. *Modern Languages:* An interesting example is the feminine name Shprintze, which sounds very commonplace, but is really a corruption of the French very romantic name Espérance (Hope).

The Meaning of Jewish Names.

Each of the many Hebrew names originally had some meaning. It either had a symbolical significance—*e.g.*, Isaac (because, said Sarah, "God hath made me laugh");[1] Immanuel (=Emanuel) means "God is with us,"[2] etc. Or it had a commemorative character—*e.g.*, Jacob (because he followed on the heels of Esau), and the twelve sons of Jacob.[3]

The Bible and Talmud often give explanations of names, but in many cases those explanations are not of any scientific value. Thus explain the Rabbis the meanings of some well-known women's names:

Iscah was so called because everyone looked at her beauty[4] (the root *sacah* means "look").

Acsa was so called because, on account of her beauty, all men who saw her became cross with their wives[5] (the root *caas* means "angry").

Ethnan was so named because her beauty urged every husband to bring a present to his wife[6] (the name contains the root of the word *Nathan*, which means "to give").

Zipporah, says the Talmud, is a compound word, *Z'pu u r'uh*, and means "come and look" (at her beauty).[7]

Esther was so called because she was as bright as a star[8] (the Greek ἀστήρ). According to another explanation, Esther means "concealment," because she concealed the meaning of her words.[9]

Many other such fanciful explanations are found. On

[1] Gen. xxi. 6. [2] Isa. vii. 14. [3] See Gen. xxix., xxx.
[4] Megillah 14*a*. [5] Temura 16*a*. [6] Sotah 12*a*.
[7] Sifri Behaalethcha. [8] Megillah 13*a*. [9] Sotah 9*b*.

the other hand, some of the meanings given certain names in the Bible are the correct ones.

Thus, Adam signifies a terrestrial origin. Eve means "life," because she was the mother of all living. Eve's first-born son was called Cain (meaning "acquisition") because she "acquired a man from the Lord." And so on.

The following is a fairly comprehensive scheme of all the names found in Jewish literature:

A. **Eponyms**—*i.e.*, representing families or tribes; *e.g.*, the sons of Ham were Cush, Mizraim (=Egypt), Phut, and Canaan. For a full list of such names see Gen. x.

B. **Place-names**—*e.g.*, Hebron (Exod. vi. 18).

C. **Names connected with some circumstance of birth:** (*a*) *Time of birth*—*e.g.*, Haggi means one born on a festival; Shabbethai is one born on the Sabbath-day, etc.

(*b*) *Order of birth*—*e.g.*, Jephtha means "first-born"; Jacob was so called because he followed on the heel of Esau. Manasseh means he causes a loss to be forgotten, and Menachem means "comforter." These names were probably given to children born after others that died in childhood.

(*c*) *Geographical position of place of birth*—*e.g.*, Benjamin means "son of the right, or south," and Ziphion (son of Gad) means "son of the north."

(*d*) *Something that happened at birth*—*e.g.*, Ichabod (1 Sam. iv. 21) means "the glory is departed."

D. **Names descriptive of physical peculiarities**—*e.g.*, Hakatan means "small" (Ezra viii. 12), Laban means "white," Gideon means "maimed," etc.

E. **Descriptive of some mental quality**—*e.g.*, Job means "assailant," Barak means "lightning," Delilah

means "delicate." The Talmud interprets Delilah as meaning "lowering," because she rendered Samson helpless (Sotah 9*b*).

F. **Abstract names**—*e.g.*, Noah and Manoah mean "rest," Michal (female) means "power."

In medieval and modern times the following abstract name became common—Chayim, which means "life," was, as we have seen, sometimes translated into Latin, Vital, and corrupted into Faitel. Amongst modern Jews Chayim has become either Hyam or Hyman or Vivian. Similarly with the feminine name Chayah.

G. **Names taken from objects:**

(*a*) *Animals*—*e.g.*, Rachel means a lamb, Zeëb a wolf, Caleb a dog, Achbor a mouse, Zipporah a bird, Deborah a bee, Jonah a dove, Chuldah a weasel.

(*b*) *Plants*—*e.g.*, Hadassa a myrtle, Tamar a date.

(*c*) *Inanimate objects*—*e.g.*, Rebekah means a cord (used for tying sheep), Shoham means a precious stone, Peninah means a coral, Keren Hapuch means a box of face-paint.

H. **Names reminiscent of some past event**—*e.g.*, Assir means a prisoner (referring to the exile).

I. **A few names are adjectival.** Thus, Baruch means "blessed." In modern times this has become translated into the Latin equivalent, Benedict or Bennet. Solomon means "peaceful" (now become Frederick or Alfred), Naomi means "sweet."

J. **Theophorous names**—*e.g.*, Elimelech means "my God is King"; Elnathan means "God has given"; Michael means "who is like God"; Yedidjah means "beloved of God"; Raphael means "God heals."

K. **Names expressive of old age:** In the case of families where several children died young, the next child was often given a name expressing old age—*e.g.*, Alter means "old one" (fem. Alte), Zeidel means "little grandfather," Bobel means "little grandmother." Such names are very commonly added to or substituted for the real name in case of serious illness, with the idea of deceiving the Angel of Death (see Chapter XXIII., p. 371).

A custom dating from the Kabbalists of the seventeenth century is still prevalent amongst Jews of Eastern Europe. Every Jewish child chooses a certain verse from the Bible, the first and last letters of which are the same as the corresponding letters of his name, and he recites this verse three times a day immediately after his *Shemona Essra* prayer. With this verse his soul is supposed to report itself to the Angel of the Grave, Dumah, after it has parted from his body. If a boy has more than one name, he chooses more than one verse. A verse name for *Zeëb* (Wolf and its cognates), for instance, would be the following: "*Z*echer tzadik libᵉracha, vᵉshem rᵉshaim yirka*b*," which is the Hebrew of Prov. x. 7, "The memory of the just is blessed, but the name of the wicked shall rot."

Redemption of the First-born Son, or "Pidyon Haben."

Every first-born son belongs to God, and it is the duty of the father to redeem him. The ceremony of redemption is done when the child is thirty days old, even if it has not yet been circumcised. If the thirty-first day happens to fall on the Sabbath or on a festival, the ceremony is to be postponed till the next day. If for any

Baptism.

Ritual immersion does not now exist, but at the time of the Talmud, if a child was born to heathen parents, and was going to be converted to Judaism, it required immersion.[1] If, however, the mother had embraced the Jewish creed during her pregnancy, then her own immersion at the time exempts her future child.[2]

[1] Kethub. 11*a*.

[2] Yebam. 78*a*.

PART IV

CHILDHOOD AND YOUTH

CHAPTER XV

GENERAL SURVEY

"Childhood is a garland of roses; old age is a thicket of thorns" (Sabbath 152*a*).

MOST of us are familiar with the seven ages of man as enumerated by Shakespeare.[1] The Midrash gives the following seven stages of human life: At the age of one a child is like a king, and everybody embraces and kisses him. Between two and three years of age he is like a pig. He crawls on the floor, puts his hand into everything dirty, and whatever he finds he deposits in his mouth (Shakespeare's infant, "mewling and puking in the nurse's arms"). At ten years of age he romps about like a goat ("the whining schoolboy"). At the age of twenty he is like a horse; he adorns himself and looks for a wife ("the lover sighing like a furnace"). When married he has burdened himself like an ass. When he becomes a father he runs about like a dog to obtain sustenance for his family. When he becomes old he is like an ape[2] (second childishness).

The Mishna divides man's life into fourteen periods.[3]

[1] "As You Like It," Act II., Sc. vii.

[2] Eccles. R. and Yalkut Shimeoni.

[3] Abboth v.

As soon as a child could sit up, a waterproof pinafore was tied round its neck to protect it against heat and scratches of cats.[1] When learning to walk, Jewish children were, and still are in Eastern Europe, put into a go-cart.[2] The **fontanelle** is mentioned in the Talmud as "the place where the brain is soft in children."[3] The situation of the fontanelle is important, as it is on that spot that the head phylactery has to rest when a boy becomes of age.

We have already seen that a child has to be specially guarded against animals injuring its brain through the fontanelle (Chapter XII., p. 195).

Milk-teeth are mentioned in the Talmud in the following discussion, which is of medico-legal interest:

According to a Biblical injunction, a slave who has a tooth or an eye knocked out by his master is entitled to be set free. The Talmud then asks why the Bible should mention an eye, after it has already enjoined that even a tooth gives the slave his liberty; but the answer is that if a tooth only were specified, one might possibly think that even if a master knocks out the *milk-teeth* of a youthful slave he will also be compelled to set him free. Therefore it is necessary to mention an eye, to signify that it only applies to a permanent tooth, which, like an eye, is no more replaced once it has been knocked out.[4]

The fontanelle disappears after the first year,[5] but nowhere, as far as I know, is there given the normal age at which milk-teeth appear and disappear, or when a child begins to walk and talk.

The life of a child is a very sacred thing, and nothing

[1] Kelim xxvi. 5.
[2] See Beitza ii. 10 (23*b*), Sabbath 66*a*. Compare also Hos. xi. 4.
[3] Menachoth 37*a*.
[4] Kiddushin 24*b*.
[5] Rashi to Menachoth 37*b*.

must be allowed to stand in the way if a child is exposed to any danger to its life or health. "Who is a pious fool?" asks a Rabbi. The answer is: "He who sees a young baby struggling in the water, and says, 'I shall first take off my phylacteries, and then try to save it.' Such a man belongs to one of the classes of humanity that help to destroy the world."[1] If a child is left alone in the room, and it is feared that an accident may happen to it or that it will be frightened, the sanctity of the Sabbath may be violated by breaking the door open and taking the child out.[2]

Chalakah, or the custom of cutting a boy's hair for the first time, took place after the fourth birthday, when care was taken to avoid touching the corners (Lev. xix. 27). In Palestine this occurred on the second day of Passover, and it was considered a privilege for each of the friends and relatives to cut a few hairs. In Talmudic times it was also customary to weigh the child and to present the weight in coin to the poor.[3] The cutting of hair was forbidden on Sabbaths and festivals, as well as on semi-festivals (*Chol Hamoëd*); but a child that was born on a semi-festival may, according to Samuel, have its hair cut, if its hair is so long as to be an encumbrance, because it is like a prisoner just released from prison (the womb), in whose favour an exception was made.[4] It would, however, appear that the statement applies to the first birthday, on which many races make a feast on the occasion of the child's first hair-cut.[5]

When the child reached the age of six years it was

[1] Sotah 21*b*. [2] Yoma 85.
[3] "Jewish Encyclopædia," article "Child," vol. iv., p. 28, col. 1.
[4] Moed Katan 14*a*.
[5] See Ploss, "Das Kind," vol. i., p. 290 *et seq.*

sent to school, but not before it was medically examined regarding its physical fitness to receive instruction. If it was too weak, school was postponed for another year.[1] A modern Ghetto child begins to go to *cheder* (Jewish school) at the age of four or five. A school child was treated with special tenderness. The mother or the eldest sister considered it a privilege to take the young scholar to school.[2] A mother who neglected this obligation on account of her domestic duties was reprimanded.[3] Children under nine years of age are not allowed to fast, and after they have reached this age they may be trained to do so by letting them fast a few hours.[4] If, however, they are medically unequal to that strain, they must not do it.[5] Mothers were allowed to wash their hands on such days in order to give their children food.[6] R. Akiba stopped in the middle of his sermon on the Day of Atonement in order to allow his hearers to feed their children;[7] and another Rabbi was in the habit of calling out after the morning service: "My brethren, any of you who have young children, let them go home."[8]

The Domestic Life of a Child at the Present Day.

As soon as a child begins to speak, its religious education begins. This consists in teaching it the *shema*, which proclaims the unity of God, and the verse, "Moses commanded us a Torah, the inheritance of the congregation of Jacob" (Deut. xxxiii. 4).[9] In order to train a child to grow up a religious man, he is accustomed to

[1] Baba Bathra 21*a*. [2] Berachoth 17*a*.
[3] Jer. Kallah. i. 1. [4] Orach Chayim 617. [5] Yoma 82*a*.
[6] Chulin 107*b*. [7] Tosefta Yoma iv.
[8] Jer. Yoma vi. 4. [9] Sucah 42*a*.

do light religious duties—*e.g.*, to shake the *lulab* (the palm branch) and carry it to synagogue during the Feast of Tabernacles; to wear an *arba kanfoth* (*i.e.*, a thin garment with fringes, or *tsitsith*, at each of the four corners).[1] He is also occasionally called up to the Law,



Fig. 2.—Habdalah Service.

and is encouraged to read the Haphtora service on Saturday morning or on a feast-day. On the feast of the Rejoicing of the Law (Simchath Torah)—*i.e.*, the last day of Tabernacles—the procession of male adults bearing scrolls of the Torah round the reading-desk (the *almemar*) is headed by the juvenile members of the

[1] Sucah 42*a*.

congregation, who carry paper flags adorned with figures of Moses and Aaron, or other sacred designs, and the inscription "Make merry at the Rejoicing of the Law." On the same day all the young boys in synagogue are called up to the Law *en masse* (*im kol han'arim*). These customs, which have disappeared in the Western countries (out of a mistaken sense of decorum), still flourish amongst the Jews of Eastern Europe. At home he is taught to say short prayers and to assist at the customary religious observances, such as holding the lighted torch at the Habdalah service on the termination of the Sabbath. On Passover night the youngest child in the family assumes a very important rôle. He asks the "four questions," and adds to the *seder* ceremony a good deal of merriment by "stealing" the *afikomon*, for the surrender of which he is promised some valuable present—a promise, however, which is rarely kept.

For other customs prevalent in the Middle Ages see I. Abrahams, "Jewish Life in the Middle Ages," p. 127.

On the eve of Passover, when the house is being searched for leaven, boys with the connivance of the parents conceal particles of bread, which the father purposely overlooks, and great is the joy of the child when he triumphantly produces the incriminating morsels.[1]

The Jewish boy attains his religious majority when he completes his thirteenth year. On that day he becomes a "son of the commandment," or *barmitzvah*, and begins to be responsible for his own actions. This is a red-letter day for every Jewish male child. Many presents are received by him, and several religious and

[1] See I. Abrahams, *op. cit.*, p. 178.

social ceremonies are performed. The father and the son are called up to the Law in synagogue, and the former publicly pronounces a benediction to God for having absolved him from the responsibilities for the latter's conduct.[1] If the *barmitzvah* happens to be above the average mental capacity, he delivers (in Eastern Europe) a public Talmudical discourse, to the great delight of his admiring parents. An average boy, in



Fig. 8.—Instruction in the Method of "Laying T^ephillin."

Eastern as well as Western Europe, delivers a speech in which he thanks his parents for their past affectionate care and attention, and promises them that by his future conduct he will endeavour to show them that that care was not wasted. In either case the discourse or speech is learned off by rote. It is from this *barmitzvah* day onwards that the boy has to put on the *t'phillin* (or phylacteries) at his weekday morning prayers.

[1] See Gen. R. lxiii. 10.

The Talmud says that he who wears *t'phillin* on his head and arm, and *tsitsith* on his garment, and also has a *mezuzah* over his door, can be relied upon as one who will not sin.[1] This, unfortunately, is too sweeping a statement.

The *barmitzvah* rites cannot, according to Abrahams,[2] be traced earlier than the fourteenth century.

The ceremony is known in England as Confirmation. There is no corresponding ceremony in the case of a girl amongst the orthodox section, or the majority of the Jewish population; but amongst the Reformers a similar rite has been established for girls. The girl goes to synagogue on the Saturday following her thirteenth birthday, dressed in a white frock, and receives the special congratulations of, as well as presents from, her friends.

Puberty.

The age of puberty is thirteen years and one day for boys, and twelve years and one day for girls. At this age, it was believed, the first menstrual period occurs.[3] Till that age every girl was considered ritually clean without any examination, but from that time the mothers had, in case of doubt, to examine their daughters to see whether the flow was established.[4] Until menstruation appears a girl cannot be said to have reached the age of puberty, even though she may already have the other signs enumerated below,[5] or even if she is already married.[6]

The establishment of the catamenia was known not to occur at a fixed time, but to depend on a variety of influences, such as climate and mode of life (see below).

[1] Menachoth 43*b*. [2] *Op. cit.*, p. 31. [3] Nidah 5*a*.
[4] *Ibid.*, 10*b*. [5] See Rashi and Nidah 5*a*. [6] Nidah 7*b*.

Menstruation in infants a few days old is recorded in the Talmud.[1]

Signs of Puberty in a Girl.

Changes in the Upper Part of the Body.—The breasts become fashioned and the hair grows.[2] A fold is formed under the mammary gland.[3] The areola and nipple become dark (in case of brunettes), or in some cases the colour of oxidized silver. The nipple becomes elastic; if, therefore, it be pressed in with the finger, it comes back slowly.[4]

These signs do not, however, so much depend on the age of the girl as on the state of her health. Strong girls show these signs earlier, weak girls later.[5] In country girls, for instance, who constantly move their arms about by working a handmill, the breasts develop at an earlier age.[6] Moreover, excessive use of one arm will cause the corresponding breast to develop more. Thus, in the case of rich girls, who continually rub their hair, which hangs over and reaches the right breast, it is that breast which develops earlier.[7] In the case of poor girls the left breast develops sooner, because they carry water with their left hand, and also carry their little sisters on their left arm.[8]

Mammary development was considered a great ornament in a woman,[9] although excessive size or marked difference between the two breasts was considered ugly.[10]

Changes in the Lower Part of the Body.—These consist in the development of the mons veneris and of the

[1] Nidah 32*a* and 66*a*.
[2] Ezek. xvi. 7.
[3] Nidah 47*a*.
[4] *Ibid.*, v. 8.
[5] Baba Bathra 155*b*.
[6] Nidah 48*b*.
[7] Lev. R. ii. 4.
[8] Nidah 48*b*.
[9] Eccles. iv. 5.
[10] Kethuboth 75*a*.

pubic hairs, two hairs being sufficient. But here, again, the development is not so much due to age as to environment. In town dwellers the signs come earlier than in country girls, because they have more frequent hot baths.[1] Examinations for signs of puberty in a girl were carried out by women.[2]

Modern authorities are of opinion that menstruation occurs earlier in Jewish than in non-Jewish girls. According to Raciborski, the average age at which it appears in Jewish girls is 14·28 years, whilst that for Russian Christian girls is 15·26 years.

F. Weber gives the following table for Jewish and non-Jewish girls of different nations:[3]

	Russians.	*Jewesses.*	*Germans.*	*Poles.*	*Vinns.*
Early—*i.e.*, at 15 ..	48·5	54·5	47·1	52·7	19·0
Late—*i.e.*, at 17 ..	6·36	3·7	2·9	2·9	19·25
Premature—*i.e.*, at 12	10·6	12·5	8·2	11·7	2·55
Delayed—*i.e.*, at 18	2·86	1·2	3·8	2·9	—

Fishberg found the average age at which menstruation first appears in Jewish girls in New York to be twelve years seven months. He investigated 483 girls, of whom 390 were immigrants and 93 were natives of foreign parentage. In the American-born girls the first menstruation appeared at the average age of twelve years one month, and among the foreign-born girls the average age was thirteen years two months.

[1] Nidah 48*b*.

[2] *Ibid.*

[3] See Weber, "Ueber Menstrualverhältnisse der Frauen in St. Petersburg," in *St. Petersburger Medizinische Wochenschrift*, 1883, Nos. 41, 42, 43.

Physiology and Pathology of Menstruation.

Menstruation renders a woman unclean for seven days from the end of the flow. According to the Bible, everything or everybody she touches becomes unclean and requires to be washed,[1] and when seven days of impurity expire the woman herself must have a ritual bath. With the destruction of the Temple, these laws of impurity, with the exception of the one forbidding sexual connection with a menstruating woman, became obsolete.

We have seen that the Talmud fixed the average age of a first menstruation at twelve years. As a rule, says the Talmud, there are regular intervals of thirty days between the commencement of two consecutive periods.[2] (We now know that this is the case only in 15 per cent. of women; in 75 per cent. the interval is twenty-eight days.) But occasionally suppression of menses may occur for three months apart from pregnancy.[3] Modern medicine recognizes chlorosis and other exhausting illnesses in girls as being responsible for still longer periods of amenorrhœa. The shortest interval between two periods recognized by the Talmud is eleven days.[4] Any shorter interval is no more spoken of as menstruation, but as metrorrhagia (*ziba*), and is therefore no more physiological, but pathological.

The maximum duration of a normal menstruation is seven days; if it lasts longer than this, the bleeding is spoken of as menorrhagia, which is pathological.

The normal duration of a period is three days. This is seen from the following statement: "Rish Lakish in the name of R. Judah said that the interval between

[1] Lev. xv. 16-24. [2] Nidah 15*a*. [3] *Ibid.*, 9*b*. [4] *Ibid.*, 72*b*.

two periods is thirty days, but Rava in the name of R. Chisda said the interval is only twenty days. This difference of opinion is, however, apparent rather than real; for one counted between the beginning of one period to the beginning of the next, whilst the other allowed *three days for the duration of the flow*, and seven more days for the subsequent period of impurity.[1]

Primary amenorrhœa is spoken of. Women who never menstruated were considered sterile, and, according to R. Meir, should not be allowed to marry, or, if married, should be divorced without receiving the usual marriage settlement. Many Rabbis, however, were of opinion that the regular sexual excitations produced by marriage *may* cure the condition and cause the menses to appear.[2] Modern observations are in agreement with this opinion.

There are, however, girls in whom the pelvic organs are not fully developed. These never menstruate, and are incurably sterile. The signs of such a condition are—Non-development of the breasts, absence of pubic hairs at the age of twenty, thick masculine voice, and when married they suffer from dyspareunia. A girl having these signs is called *ailonith*.[3] R. Gamliel had a daughter who was an *ailonith*.[4]

Symptoms accompanying Menstruation.—In most women menstruation is accompanied by the following subjective phenomena: Yawning or sneezing or hiccoughing, pain in the middle and lower parts of the abdomen, non-sanguineous discharge, slight shivering, heaviness of the head and limbs, and tremors.[5]

[1] Nidah 9*b*; see also *Ibid.*, 66*b*.
[2] Nidah 12*b*.
[3] Yebamoth 80*b*.
[4] *Ibid.*
[5] Nidah 63*a* and *b*.

Cause of Menstruation.—The exact cause of menstruation was as mysterious to the Rabbis as it still is to modern physicians. The Midrash explains the phenomenon theologically by saying that it is a punishment given to women to expiate the crime committed by Eve, for it was thanks to her that Adam was condemned to "return to dust" (Gen. iii. 19).[1] But whilst the Rabbis were ignorant of the cause of the phenomenon, they knew that there was a certain relationship between it and fecundity.

"In respect of menstruation," says the Mishna, "women are like vine-trees. There are some vine-trees whose wine is red, others whose wine is black; some whose wine is abundant, others whose wine is scanty." R. Judah said every vine-tree has wine; if it has not it is sterile. In the name of R. Meir it was said that a woman whose flow is abundant is most fertile.[2]

Causes producing Premature Flow.—These are—Carrying of heavy weights, jumping, various illnesses,[3] fright,[4] excitement of an erotic nature,[5] as well as the eating of onions or pepper.[6] Prolonged anxiety, on the other hand, will delay the appearance of the flow.[7]

Differences between Menstrual and Other Blood.—As it was only the blood coming from the uterus that rendered a woman unclean, it became necessary to distinguish between that blood and blood coming from other sources, such as wounds in the pelvic region. Blood coming from the uterus may have any of the following tints: red, black (like ink), reddish (like saffron),

[1] Tanchuma, edit. Buber.
[2] Nidah 64*b*, end of ch. x.; see also 8*b*.
[3] Nidah ix. 1.
[4] *Ibid.*, 71*a*, and Megillah 15*a*.
[5] Nidah 20*b*.
[6] *Ibid.*, 66*a*.
[7] *Ibid.*, 71*a*.

muddy, or the colour of a mixture of two parts of water and one part of wine.[1] The exact shade depends on the climate.

R. Zera, who lived in Palestine, once came to Babylon, where he was asked to diagnose the source of a given specimen of blood; and he replied that he was unable to do so, as he was ignorant of the nature of the land and its inhabitants.[2]

It was in cases of red blood that the difficulty of diagnosis arose. The distinguishing test in such cases was the ease with which the blood dissolved in water. Menstrual blood was believed to be more easily soluble than other blood.[3] We now know that menstrual blood is not easily coagulable, on account of its admixture with alkaline mucus. The Samaritans, however, considered every bleeding from the vagina as "unclean."[4]

Identification of Blood-Stains. — In order to tell whether a given stain was blood or not, the Talmud gives the following chemical test:

Apply in succession the following reagents: (1) Saliva of a person who did not taste food or speak since the previous evening. (2) Barley-water. (3) Urine that has been allowed to undergo ammoniacal fermentation. (4) A solution of soda. (5) Soap solution. (6) *Kamunia* (a kind of earth). (7) A reagent called *Ashleg,* which is a kind of plant found inside the holes of pearls.[5]

If the stain dissolved, then the test was positive and the woman was declared unclean. The Shulchan Aruch, however, discards this test as unreliable.[6]

It is narrated that the mother of a certain King once sent a specimen of blood to Rava for an opinion, and he

[1] Nidah 19*a*. [2] *Ibid.*, 20*b*. [3] *Ibid.*, ii. 6, 7.
[4] *Ibid.*, iv. 1. [5] *Ibid.*, 61*b* and 62*a*. [6] Yore Deah cxc. 31.

declared, as a result of his examination, that the blood was not menstrual, but a momentary flow the result of a sudden very strong desire. She was so struck with his great erudition that she mentioned the fact to her son, who, however, felt sceptical, and in order to test his skill he asked his mother to send Rava specimens of blood from sixty different animals, which Rava had no difficulty in distinguishing. One of the specimens consisted of the blood of pediculi, and in reply Rava sent her back a beautiful comb.[1]

If the story is true, it is exceedingly interesting, since it is only by the biological (precipitin) test, introduced within the last few years, that it has become possible to tell from what animal a given specimen of blood came. Moreover, it is only since the introduction of the compound microscope, less than three hundred years ago, that the presence of a nucleus[2] in the red blood-corpuscles of non-mammalian blood has enabled one to distinguish it from mammalian blood, in which the red corpuscles are non-nucleated.

Chastity.

At the age of puberty special steps are to be taken to guard the child against unchastity. The verse in Psalm cxliv. 12 was interpreted by the Rabbis as follows: "Our sons are like plants" denotes the young boys of Israel who have not tasted sin. "Our daughters are like olives" applies to Jewish girls who keep their virginity for their husbands.[3]

As idleness is the mother of all evils,[4] parents took

[1] Nidah 20*b*.

[2] The presence of a nucleus in a cell was first described by Robert Brown in 1831.

[3] Pessachim 87*a*.

[4] Kethuboth 59*a*.

good care to keep their children employed, and to teach them some trade or profession which did not bring them too frequently into the company of women.[1]

The Midrash tells the following parable: A father with an eye to business opened for his son a shop of perfumery in a street where women of evil repute resided. One day the father caught his son in the company of one of those women, when he got into a rage and wanted to kill him. A friend who happened to pass by reprimanded the father. "It is you yourself who spoiled your son," said he, "and now you are cross with him. Could you find no other business for him than that of scent-dealer, and no other street for his business except one which is the resort of bad women?"[2]

"Three persons," said R. Jochanan, "are specially favoured by God: a bachelor who resides in a big city and yet abstains from sin, a poor man who restores lost property, and a rich man who tithes his produce unostentatiously." When R. Safra, who lived in a big city, heard this saying, he became full of joy; but Raba said to him: "This saying of R. Jochanan does not apply to people like you, but only to folk like R. Chanina and R. Oshaya, who lived in a street inhabited by prostitutes, and who in virtue of their trade as shoemakers came into daily contact with these women, and yet did not lift up their eyes to look at them."[3]

Care was taken to keep the child away from undesirable companions,[4] and too frequent association with women was discouraged. "He who hands over something to a woman merely with the object of looking at her, even if he is full of good deeds as Moses, will not

[1] Kiddushin 82*a*. [2] Exod. R. xliii.
[3] Sabbath 152*a*. [4] Ab. Zarah 36*b* and 37*a*.

escape the punishment of the Gehenna."[1] Among the very orthodox Jews of Eastern Europe it is even now forbidden for the two sexes to dance together, and the men also avoid sitting or passing between two women. Evil thoughts are worse than evil deeds,[2] and it was therefore forbidden to look at a woman's hair, to listen to her singing, or to look even at her little finger.[3] Married women had therefore to conceal their hair, a custom which is still prevalent amongst Jews in Eastern Europe, where the women either shave off their hair at marriage or wear false hair (a *sheitel*) to cover their own. A woman named Kamchoth had seven sons, all of whom were High Priests in succession, and she attributed her good luck to the fact that she never allowed the roof of her house to see her hair. Nevertheless, says the Talmud sceptically, other women have done the same, and were not so rewarded.[4]

As a protection against self-abuse and pollutions, the Talmud forbids the handling of the sexual organ during micturition,[5] and discourages one even to touch any part of the body below the umbilicus. In fact, R. Tarphon says that, " if a thorn sticks in the lower part of your body, do not pull it out even if you burst ";[6] and for a similar reason some Rabbis were against the wearing of tight pants.[7] Sleeping on the back is to be avoided, on account of the possibility of its causing a pollution.[8] According to Aristotle, animals have no nightly pollutions because they do not sleep on the back.[9]

Although boys were on moral grounds prohibited from handling their sexual organs, no such restriction

[1] Berachoth 61*a*. [2] Yoma 29*a*. [3] Berachoth 24*a*.
[4] Yoma 47*a*. [5] Nidah 13*a*. [6] *Ibid.*, 13*b*.
[7] *Ibid.* [8] Berachoth 13*b*.
[9] Problem Sect., quoted by Preuss, *op. cit.*, p. 574.

was placed on girls, because they were not so easily excitable as boys, and, indeed, it was advised that females should examine themselves by means of a swab, to see whether they were clean or unclean.[1]

Respect for parents is a powerful means of checking unchastity. A Roman lady found it impossible to believe that Joseph, a youth of seventeen in full bloom of life, could withstand the overtures of the wife of Potiphar; but the Rabbis' explanation was that, when Joseph came into the house determined to yield to her entreaties, the image of his father appeared, "when his desire left him through his finger-tips."[2] Early and happy marriage is the best prophylactic against unchastity; for "it is not the same if a man is hungry when he knows he has bread in his basket, as when a man who is hungry has no bread in his basket."[3]

"When your daughter has become of age, you should liberate your slave and give him to her for a husband,"[4] is a sufficiently emphatic statement calling attention to the danger of leaving girls unmarried after they reached the age of puberty. The Talmud says: "He who loves his wife as himself, and respects her more than himself; he who leads his children on the righteous path, and marries them at the age of puberty, of him says the verse, 'And thou shalt know that thy tabernacle is in peace; and thou shalt visit thy habitation, and shalt not sin'"[5] (Job v. 24).

[1] Nidah 13*a*. [2] Gen. R. lxxxvii. 6, 7 and Sotah 36*b*.

[3] Yoma 18*b*. The following Talmudic maxim is interesting in connection with the present campaign against venereal diseases:

"The secret sinner shall be put to shame,
For God will openly his sin proclaim."
(Sotah 5*a*; see "Gems from the Talmud," p. 129.)

[4] Pessachim 113*a*. [5] *Ibid.*, 76*b*.

CHAPTER XVI

RELATION BETWEEN PARENTS AND CHILDREN

" God, your father, and your mother,
They have each a share in you.
If you pay to both your parents
That respect which is their due,
Then together with your parents
God considers He doth dwell;
And by honouring your parents
You do honour God as well."

(Kiddushin 30*b*; " Gems from the Talmud," 31.)

Duties of Parents to their Children.

ACCORDING to the Mosaic Law, it is incumbent upon the father to bring up and educate his children, and to teach them the right way wherein they shall go. About Abrahām it was said: " He will command his children and his household after him, and they shall keep the way of the Lord to do justice and judgment."[1] That the mother also had to do with her children's moral education, especially in their early youth, is seen from the references in Proverbs: " My son, hear the instruction of thy father, and forsake not the law of thy mother."[2] It was also part of the father's duty to inspire his children with a sense of modesty and chastity,[3] and to administer mild punishment in case of disobedience; for " He that spareth his rod hateth his son, but he that loveth him chasteneth him betimes."[4] On the

[1] Gen. xviii. 19.
[2] Prov. i. 8; see also Prov. xxx. 1.
[3] Sabb. 65*a*.
[4] Prov. xiii. 24.

other hand, it was prohibited to give corporal punishment to grown-up children.[1] No distinction was allowed to be made openly between one child and another; for because Jacob loved Joseph more than his other children, and "made him a coat of many colours,"[2] his brothers became jealous, and as a result of this the Jews were afterwards enslaved in Egypt.[3] A father cannot make his favourite son inherit a double portion; that privilege belongs to the first-born son.[4] It was the father's duty to have his male children circumcised and to redeem the first-born son (see Chapters XIII. and XIV.); to teach his sons, to marry them, and to provide them with a means of earning their living. "He who does not teach his son a trade or handicraft is as if he teaches him to be a robber."[5]

Maintenance.

A father is morally bound to provide food for his children. If a father refused to feed his children, it was once said, he was like a jackal who begat children and left them for others to feed.[6] If the man has property, he is to be compelled to feed his children.[7] A father is also obliged to clothe them and provide them with other necessities.[8] A father has the power to dispose of his daughter's hand when she is still a minor, although according to some he cannot do so, but must wait until she is old enough to give her consent to the match.[9] Although the Bible speaks of the rights of a father to sell his daughter to be a maidservant,[10] yet that

[1] Moed Katon 17*a*. [2] Gen. xxxvii. 3. [3] Sabb. 10*b*.
[4] Deut. xxi. 15-17. [5] Kiddushin 29*a*.
[6] Keth. 49*b*. [7] *Ibid.* [8] Maimonides, Ishoth xii.
[9] Kiddushin 41*a*. [10] Exod. xxi. 7.

right only applies in case of daughters under age, and only when it is the intention of the purchaser to make the girl his wife.

It is the duty of a father to get his child married, for it is written: "Take wives for your sons, and give your daughters husbands"[1] (see Chapter IV.). He is also obliged to clothe his daughter as befits her position and give her a suitable dowry,[2] but he is not bound to sell up his household for the purpose.[3] One must not marry one's younger son first merely because he is more learned; the same applies to a daughter. This is inferred from the story of the deception practised on Jacob when he married Rachel, when Laban said to him: "It is not the custom in our country to give the younger before the first-born."[4] A father has the right to annul a vow that has been made by his daughter when she was under age.[5]

Parents have no right over their sons' property, nor has the son any right over that of his parents. In case of a son's findings, however, if he be still maintained by his father, the latter is entitled to them.[6]

"Of everyone," says the Talmud, "can one be jealous, except of his own son and his pupil,[7] and there does not exist a man who hates his son."[8] A parent should never tell his child that he is going to give him something, and then not keep his promise, for this teaches the child to tell a falsehood.[9]

A father must teach his son a handicraft,[10] but that should be a clean one by preference,[11] also not one

[1] Jer. xxix. [2] Kiddush. 30*b*.
[3] Shaaloth u teshuvoth Horosh viii. 4.
[4] Gen. xxix. 26. [5] Num. xxx. 4-6.
[6] Baba Metzia 12*a* and *b*. [7] Sanhedrin 105*b*. [8] *Ibid.*
[9] Succah 46*a*. [10] Kidd. 29*a*. [11] *Ibid.*, 82*a*.

which might bring him too much into the company of women.[1]

In the case of girls, if the daughter has become of age, one should liberate one's slave and give her to him for wife,[2] which means that one should do anything to marry her off rather than run any risks.

The Duties of Children to their Parents.

The Talmud tells a very pretty story illustrative of filial reverence. A certain man named Damah once had a precious jewel, and somebody came to him to purchase it. He accepted the price that was offered, and went into an adjoining room to fetch it. On entering it, he found his father asleep on the chest in which the jewel was deposited. He returned to the would-be purchaser, and told him that, as his father was asleep, he could not dispose of the gem. The man, thinking that it was only an excuse to obtain a larger price, offered him more money. "No," said the dutiful son; "I would not disturb my father's sleep even for all the riches in the world." The customer waited till the father awoke, when Damah brought forth the jewel. The customer gave him the price offered the second time, but Damah refused. "I will not barter the satisfaction of having done my duty for gold," said he; "give me what you offered me first, and I shall be satisfied."[3]

The following are further examples of the extreme respect and obedience that a child owes to his parents:[4]

The same Damah had an insane mother, who used

[1] Kidd 82*a*.
[2] Pessachim 113*a*.
[3] Kiddushin 31*a*.
[4] *Ibid.*

to come and insult him by beating him with her shoe in front of everybody. He never lost his temper with her, but only said: "Mother, let it be enough this time."

R. Tarphan's mother was once walking in her garden and lost her slippers. Rather than let her walk bare-footed on the ground, he put his hands under her feet, and she walked on them until she reached her bed.

R. Ishmael's mother once came to complain to the Rabbis that her son did not pay her the necessary respect. The Rabbis were astonished, and asked her what it was that incurred her displeasure; and she said that when he came back from the Academy she wished to wash his feet and drink the water, but he would not let her. The Rabbis decided that, if this was her wish, it was her son's duty to obey her.

Greater is the honouring of parents than the honouring of God with sacrifices. The poor are under no obligation with regard to the latter, but the honouring of parents is as incumbent on them as on the rich.[1]

A child has usually more fear for the father than for the mother, and more love and honour for the mother than for the father. Hence, when the Torah enjoins honour for parents, the father is mentioned first;[2] but when fear for parents is commanded, then the mother is mentioned first.[3]

There are many ways in which honour is to be shown to parents. If they have a certain corner in their room which they prefer, or a certain chair on which they sit, they must not be used even in their parents' absence.

[1] Jer. Pĕah., ch. i.
[2] Exod. xx. 12.
[3] Lev. xix. 3; Kidd. 31*a*.

The parents must not be contradicted, and attention is to be shown them in every possible way.

A man once overheard his wife telling her daughter that, though she had ten sons, only one of them was the son of her lawful husband. After the husband's death, it was found that he had bequeathed all his property to one son, but that the will did not mention his name. They all came to Rabbi Benaah, and asked him to arbitrate between them. "Go," said the Rabbi, "and beat on your father's grave until he rises to tell you to which of you he left the property." Nine of the brothers did so, but the tenth had too much respect for his father's memory to go and desecrate his grave in that way. This one was presumed to be the one on whom the father had fixed his affections, and he was therefore adjudged to be the right heir.[1]

It is possible, says the Talmud, for one man to feed his father on stuffed fowls and deserve hell, and for another to make his father do hard work and deserve paradise.

Thus, a man once gave his father fat chickens to eat, and when the latter asked him whence he got them, he replied: "Eat and ask no questions; dogs do the same." Such a man deserves hell. On the other hand, a King once required the services of millers, and a son said to his father: "Father, come thou, work my handmill for me at home, and I shall go to work for the King; if the King is displeased with the work, let him punish me rather than thee." Such a man deserves paradise.[2]

[1] Baba Bathra 58*a*.

[2] Jer. Peah. i.; see also Kiddushin 31*a*.

CHAPTER XVII

PERSONAL CLEANLINESS AND HYGIENE

" Cleanliness leads to holiness " (Sotah xi. 15; Aboda Zarah 20*b*).

Hygiene of the Skin.

THE great importance that was attached to body cleanliness is illustrated by the following anecdote narrated in the Midrash about Hillel: His pupils once met him when he happened to be in a great hurry. " Whither goest thou, master ?" asked they. " To perform a religious duty," answered Hillel. " Which duty is that ?" asked the pupils. " I am going to the bath-house to wash," was the Rabbi's answer. " Is bathing a religious duty ?" asked his pupils with surprise. " Certainly," replied Hillel. " If those that look after the statues and monuments of Kings that are placed in theatres and circuses are very careful to keep those images of earthly Kings clean, how much more should I keep my body clean, that has been made in the image of God !"[1]

A full warm bath every Friday is considered as much of a religious duty as the lighting of candles in honour of the Sabbath.[2] The Zohar, a work on metaphysics (probably of the thirteenth century), explains that the benefit of immersion on Friday amounts to the restoration of the soul to its proper place, for he who is bodily unclean has no soul.[3]

[1] Lev. R. i. 5.
[2] Sabbath 25*b*.
[3] Kitzur Shnei Loochoth Habrith 61*b*.

The beneficial effects of daily ablutions were well recognized. R. Munah said in the name of R. Judah: "A drop of cold water in the morning, and the washing of hands and feet in warm water in the evening, are better than all the ointments in the world."[1] To have a warm bath without douching oneself afterwards with cold water is like putting iron into the fire (for the purpose of hardening it), without subsequently rendering it elastic by cooling it.[2]

Washing of the hands is compulsory before and after meals.[3] The necessity of washing one's hands after meals is illustrated by the following incident: A man once ate lentils, and went out without washing his hands. A robber who saw the traces of lentils on the man's hands went to the latter's house, and told his wife that her husband asked him to fetch a certain valuable ring. As evidence of his *bona-fides* he stated that the husband told him to say that he had eaten lentils before he left the house. She gave him the ring, and when her husband returned told him about it. He became very angry and killed her. Hence it is said that he who does not wash his hands after meals is as if he commits murder.[4] The reason for washing one's hands after food is that it used to be the custom to take a little salt (salt of Sodom) after every meal, and the washing was to remove the salt and thus prevent injury to the eyes from inadvertent contact.[5]

To impress the necessity of washing the hands before food, the Midrash relates the following anecdote:

During the persecution of the Jews (under Hadrian), a Jewish restaurant-keeper, in order to hide his nationality, used also to sell pork. If any customer washed his

[1] Sabbath 108*b*. [2] *Ibid.*, 41*a*. [3] Chulin 106*a*.
[4] Yoma 83*b*. [5] Erubin 17*b*.

hands before food, he was recognized by the proprietor as a Jew, and was therefore served with kosher food; all other customers were given pork. Once a Jew came into the restaurant and sat down at the table without washing his hands. Mistaking him for a heathen, the proprietor served him with pork.[1] Hence the saying: "Neglect of the *first water* (*i.e.*, water before meals) caused somebody to eat pork, and of the *after water* (*i.e.*, the water after meals) occasioned loss of life."[2]

So deep-rooted is this custom of washing the hands before food that, when a modern Ghetto Jew asks a visitor to join him at dinner, he does so by saying: "Would you be good enough to go and wash yourself?"

After a journey,[3] and before going to bed,[4] it was customary to wash one's feet.[5] According to R. Samuel, uncleanliness of the head brings about blindness, uncleanliness of clothes causes mental disease, and abscesses and boils are the result of uncleanliness of the body.[6]

Immediately on rising from bed in the morning the hands must be washed.[7] This washing is popularly called "nail water," and before this is done the mouth, nose, ears, or eyes, must not be touched. This is enjoined as a protection against evil spirits. If for the words "evil spirits" we substitute the word "bacteria," these religious precepts become explicable from a modern scientific point of view.

Maimonides says that the bath is very necessary for maintaining good health.[8] The following rules are laid down by him:

1. Do not sit too long in the bath.

[1] Num. R. xx. 21. [2] Yoma 83*b*. [3] 2 Sam. xi. 8. [4] Cant. v. 3.
[5] Menachoth 85*b*. *Cf.* Gen. xviii. 4, xix. 2, and xxiv. 32; also Luke vii. 44. [6] Nedarim 81*a*.
[7] Sabbath 109*b*. [8] "Regimen Sanitatis," iv. 10.

2. Do not have a bath soon after a meal nor when you are very hungry.

3. Remove all perspiration by drying your skin thoroughly with a clean absorbent towel.

4. First sponge your body with lukewarm water, and then gradually increase or decrease the temperature of the water until you attain the temperature you choose for your bath.

5. Salt water baths are specially recommended.[1]

6. After coming out of the bath have a douche and attend to the calls of nature.[2]

7. Rub yourself with oil.

8. Do not have anything to eat until you have had a good rest after the bath.

9. Do not drink cold water immediately after the bath.[3]

10. It is advisable to have a bath at bedtime.[4] One should not wash one's feet one over the other; this is bad for the memory.[5]

11. It is necessary to dry oneself thoroughly with a towel; otherwise the skin becomes chapped.[6] The face, hands, and feet, must be washed every day,[7] and the whole body at least once a week.[8]

Public Baths.

Next in importance to synagogues and schools were the public baths. "No learned man may live in a town in which, amongst other things, there are no public baths or public conveniences."[9]

Asthma i., quoted by Grünwald, *op. cit.*, p. 249.
Hilchoth Deoth iv. 16. [3] *Ibid.*, 17.
Asthma x., quoted by Grünwald, *op. cit.*, p. 249.
Horioth 13*b*. [6] Sabb. 133*b*, Ned. 81.
Sabb. 50*b*. [8] Maimonides, Hilchoth Deoth iv.
Sanhedrin 17*b*; see also Kidd. iv.

The bath-house consisted of three rooms: a hall, a dressing and rest room, and the bathroom proper, inside some of which there were also swimming basins, in others vapour baths. These vapour baths were considered of great therapeutic value.[1] The swimming baths had steps on which bathers used to sit and wash.[2]

As supplements to the bathing proper were also added rubbing with oil, and various kinds of massage and passive movement.[3] After the bath it was recommended to take a little stimulant, like a glass of wine.[4]

Order of Washing the Body.

The head, being the king of the human body, is washed and anointed first.[5] After washing with warm water it is necessary to sponge oneself with cold water, and then anoint oneself with oil. For he who does not sponge himself after a warm bath is like iron that has been passed through the fire without passing it through cold water—it does not get elastic. And to omit the inunction after a bath is like pouring water on the outside of a barrel—none gets inside it.[6]

When washing one's hands after attending to calls of nature, the following benediction is pronounced: "Blessed art Thou, O God our Lord, King of the Universe, who hast formed man with wisdom and created in him various apertures—real and potential. It is well known before Thy majestic throne that, if any one of them becomes open or closed, it is not possible for man to exist even for one hour. Blessed art Thou, O God, who healest all flesh and workest wonders."[7]

[1] Sabb. 41*a*. [2] Berachoth 22*b*.
[3] Sabb. 147*a*, and commentary of R. Chananel. [4] Sabb. 140*a*.
[5] Derech Eretz x. [6] Sabb. 41*a*. [7] Berachoth 60*b*.

A special means of beautification for a girl was to have frequent baths followed by massage and exercise,[1] and hence a house near a public bath was highly valued by women.[2] Rich women had baths in their own homes.[3]

Girls used to carry little scent-bottles round their necks as well as around their boots;[4] for "on account of the mode of her creation a woman must perfume herself, to avoid decomposition" (see Chapter IV., p. 66). Every bridegroom had to undertake to give his wife 10 dinars for scents for every 100 dinars that he received from her as a dowry.[5]

Care of Hair.

Anatomy and Physiology of the Hair.—"Each hair," says the Talmud, "has a separate follicle; for should two hairs derive their nourishment from the same follicle, that person's eyes would become dimmed."[6] In spite of this saying, the Talmud discusses the case of a girl who presented two pubic hairs which arose from one follicle, whether such a girl would be considered as one who had reached puberty[7] (see Chapter XV., p. 238). Should a hair follicle get stopped up, that particular hair becomes dry and brittle.[8]

The growth of hair takes place from the root, and not

[1] Jer. Kethuboth vii. 7, quoted by Herschberg, *He'Atid*, *op. cit.*, vol. iv., p. 23.
[2] Kiddushin ii. 3.
[3] Tosefta Nidah vi. 15 and Tosefta Negaim vi. 3.
[4] Sabbath vi. 3 and Ab. Zarah 38*b*.
[5] Kethuboth 66*b*.
[6] Baba Bathra 16*a*.
[7] Nidah 52*a*. The statement about one follicle for each hair only applies to hair of the head.
[8] Tanchuma Thazria to Job xxxviii. 25.

from the tip, as is evident from the fact that, in the case of old men who dye their hair, it is the roots that after a time resume their grey colour, and not the tips.[1] This is an exceedingly interesting observation, since it is at the present time utilized in forensic medicine to tell whether or no a person has dyed his hair. The number of hairs on the human head is given, according to one authority, as one billion and seven thousand, and according to another as 410 billions, the numerical value of the word *Kadosh* (קדוש).[2] Sir Erasmus Wilson estimated the number of hairs on the head to be between 120,000 and 200,000.

The hair of children was not cut till they were at least three years old. It is usual to weigh the hair cut off against coins, which are given by the parents to charity (see Chapter XV., p. 231). If a person's body is very hairy it is a sign of good luck. The hair cut off from the head should be burned or hidden in a place where it can be found; if thrown away it will cause headache. If a child's hair is cut, an elf lock will grow.[3]

Toilet of the Hair.—The hair was washed with soda and soap, and then anointed with oil.[4] In girls long hair was a mark of beauty.[5] A woman's hair was, therefore, never cut except as a sign of deep mourning or of degradation.[6] Women used to plait their hair,[7] but a man who curled his hair was considered vain.[8] The hair was regarded as such a mark of beauty in

[1] Nazir 39*a*. [2] Sifthe Renanoth to Maabar Yabok, ch. xi.
[3] Article "Childbirth," "Jewish Encyclopædia," vol. iv., p. 31.
[4] Sabbath 41*a*. [5] Cant. iv. 1, vi. 6.
[6] Jer. vii. 29; *cf.* Deut. xxi. 12.
[7] Num. R. ix. [8] Gen. R. xxxiv.

woman that married women were recommended to hide it (see Chapter XX., p. 337). In some cases girls wore their hair so long that they could actually wrap themselves round with it—*e.g.*, the daughter of Nacdimon, who did so when R. Yochanan b. Zakkai passed her.[1]

Hair dyes were frequently used by women, and the Talmud lays down the law that if a widow dyes her hair she is no more entitled to her husband's property, since it is a sign that she intends to give up her widowhood.[2]

Not to comb one's hair regularly is injurious to the eyes.[3]

Although hair on the head is an ornament, yet when it occurs in other situations—especially in women—it is a blemish, and depilatory means were employed to get rid of such superfluous hair.[4] Hirsutes in children was attributed to alcoholism in the parents.[5] Falling out of hair may be due to illness or fright,[6] and remedies were mentioned for stimulating their growth.[7]

Care of Ears.

The unwashed hand which touches the ear should be cut off, because of the danger of causing deafness.[8] Deafness may also be caused by blowing or shouting into somebody's ear.[9]

Care of Nose.

To touch the nose with an unwashed hand after sleep may cause a polypus.[10]

[1] Kethub. 66*b*.
[2] *Ibid.*, 54*a*.
[3] Nedarim 81*a*.
[4] Sabbath 80*b*.
[5] *Ibid.*
[6] Exod. R. xxiv. 4.
[7] Eccles. R.
[8] Sabbath 108*b*.
[9] Tosefta B. Kama vi. 5.
[10] Sabb. 109*a*.

Care of Eyes.

Cleanliness of the head was considered a good protection against blindness.[1] One must, also, not touch the eyes with an unwashed hand immediately after sleep[2] or after meals; in the latter case, on account of any salt that may adhere to the fingers.[3]

Care of Teeth and Mouth.

To keep the teeth and mouth sweet and aseptic, salt is recommended after each meal, and for the same reason a drink of water is recommended after each beverage.[4] R. Akiba said that he liked the Medes for three things: They carve meat only upon a table; when they kiss, they do so upon the hand only, and not upon the mouth; and they hold counsel only in the open fields.[5] The Shulchan Aruch orders the rinsing of the mouth every morning.[6]

To prevent dental decay it was advised to avoid sour things,[7] and to guard them against vapour of a bath.[8] Defective teeth with their subsequent indigestion are a cause of malnutrition.[9] R. Meir said: "Masticate your food well with your teeth, and you will find it in your feet."[10] Extraction of teeth was deprecated,[11] especially of "eye teeth," where extraction was believed, as it still is by the ignorant public, to cause blindness. Celsus, quoted by Preuss,[12] says: "Majore periculo in

[1] Nedarim 81*a*.
[2] Sabb. 108*b*.
[3] Erubin 17*b*.
[4] Berach. 40*a*.
[5] Berach. 8*b*.
[6] Orach Chayim iv. 11.
[7] Sabb. 111*a*.
[8] Jer. Aboda Zarah iii. 4.
[9] Nidah 65*a*.
[10] Sabb. 152*a*.
[11] Pessachim 113*a*.
[12] *Op. cit.*, p. 330.

superioribus dentibus fit (extractio), quia potest tempora oculosque concutere."

A good set of teeth was in those times, as it is now, considered an ornament. An excellent description of a clean and beautiful set of teeth is given by Solomon: "They are like a flock of sheep that are even shorn, which came up from the washing; whereof every one bear twins, and none is barren among them."[1] (See also Chapter II., p. 44.)

Care of Nails.

"He who trims his nails and burns the parings is a pious man; he who buries them is a righteous man; but he who throws them away is a wicked man, for mischance (miscarriage) might follow, should a pregnant woman tread on them."[2]

"One should trim his finger-nails every Friday, never on Thursday; otherwise the nails will commence growing on the following Sabbath (third day). The left hand should be done first, and in the following order: Fourth, second, fifth, third, and first fingers. Then the right hand in this order: First, third, fifth, second, and fourth fingers (see Shulchan Aruch Orach Chayim cclx. 1). To pare two contiguous fingers one after the other impairs the memory."[3] It is probable that this order was a purely arbitrary one, in order that the operation might not be done automatically. Such actions would render the individual liable to the risk of cutting himself.

The nails of the fingers and toes should not be cut on

[1] Cant. iv. 2. [2] Moed Katon 18*a*, Nidah 17*a*.

[3] Kitzur Shnei Loochoth Habrith 61*a*, and Tur Orach Chayim cxli. end.

the same day. The Persian custom of washing the hands after cutting the nails has been adopted by the Jews and explained metaphysically.[1] The reason why it is dangerous for a pregnant woman to tread upon nails is explained as follows: Adam's entire body was covered with a horny, nail-like substance until he was induced by Eve to sin, when that substance disappeared all over the body and remained on the finger-tips alone. It is therefore fit that nails should be an instrument of punishment to a woman.[2]

The modern superstitious belief that white spots on the nails are a sign of good luck is found in the Zohar.[3]

Dress.

The importance of neatness and cleanliness of dress is emphasized in the Talmud by the following sayings: "Every pupil of the wise on whose dress is found a spot of dirt deserves death."[4] It is a disgrace for a student to go into the street with dirty boots.[5]

The four things which distinguish a scholar from other people are his money, his cup, his anger, and his attire.[6]

Clothes which are used for cooking must not be used for serving.[7] It is important to have several suits of clothes for frequent changing,[8] and he who only possesses one shirt belongs to the class of people whose life is not worth living.[9]

[1] Zohar iii. 79*a* and *b*; the reason being that evil spirits (otherwise, dirt) are found under the nails.

[2] Zohar to Vayakhel ccviii. 2.

[3] Zohar ii. 76*a*.

[4] Sabbath 114*a*.

[5] *Ibid.*, and Berachoth 43*b*.

[6] Derech Eretz Zuta v. and Erubin 65*b*.

[7] Sabbath 61*a*

[8] *Ibid.*, 114*a*.

[9] Beitza 32*b*.

Clothes are more important than food. A person must eat below his means, but dress according to his means.[1] A poor man who asked for a garment was at once given it without first investigating his *bona-fides*, but if he asked for food a preliminary cross-examination was made, to ascertain whether or no his case was a deserving one.[2] According to other opinions the reverse was the proper thing to do, but all agreed that, if a rich man became poor, the same elegant dress was to be given him, from charity, that he was used to wear.[3] If somebody wears a garment worth 100 pieces of silver, and he is in debt to the same extent, then, according to some, his garment is to be sold and he is to be given a cheaper one; but according to R. Ishmael and R. Akiba he must be allowed to wear that costly dress.[4]

Boots were more necessary than other articles of clothing. One must sell the roof of one's house to provide oneself with boots.[5]

It is dangerous to wear damp clothes, and hence garments that have been washed must be allowed to dry at least for eight days before putting them on, to avoid the risk of skin disease.[6] In the case of girls dress was still more important. From an æsthetic point of view women used to wear linen dresses.[7] All manner of beautification by means of dress was allowed to girls, except such as exposed certain parts of the body. Thus, the following were in the case of married women reasonable causes for divorce: Bare head, bare legs, and bare arms.[8] (See story of Chuma in Chapter IV., p. 67.)

[1] Chulin 84*b*.
[2] Baba Bathra 9*a*.
[3] Jer. Peah. viii. 7.
[4] Sabbath 128*a*.
[5] *Ibid.*, 129*a*.
[6] Pessachim 112*b*.
[7] Kethuboth 59*b*.
[8] Tosefta Kethuboth vii. 6, Jer. Sota i. 1, Gittin 90*b*.

A girl was given a full year in which to prepare her wedding trousseau,[1] and a husband was legally bound to provide his wife, not only with a suitable dwelling and food, but with head-dress, a girdle, a new pair of shoes at each of the three great festivals, and other clothing items at ordinary times, at least to the annual value of 50 zuzim, or shillings, exclusive of the voluntary gifts, chiefly of clothes, with which a man must rejoice his wife's heart.[2] Provision was also made for every-day wear as well as garments for the Sabbath.[3] Girls' boots were lined inside with felt,[4] and were occasionally painted with pictorial representations of events of the time.[5]

As a whole, the various garments were the same for males and females (except in the case of headgear); but they differed in colour, white for men and coloured for women,[6] and the Mosaic injunction which forbids men and women to dress alike[7] referred to colour and jewellery. Garments made of a mixture of linen and wool is known as *shaatnez*,[8] and is forbidden to be worn by the Mosaic Law.[9] This custom prevails to the present day.[10] Boys wear under their vests a small thin garment in the shape of a chest protector, made of silk, wool, or cotton, with woollen fringes at each of the four

[1] Kethuboth 57*a*.

[2] Kethuboth 64*b*, Pessachim 109*a*.

[3] See Abrahams, *op. cit.*, p. 276.

[4] Sabbath vi. 5.

[5] Compare Isa. iii. 16.

[6] See Herschberg, *He'Atid, loc. cit.*, p. 47 *et seq.*

[7] Deut. xx.

[8] "Linsey-Woolsey" as it was named in the sixteenth century.

[9] Lev. xix. 19.

[10] As linen does not absorb dyestuff as easily as does wool, it is possible, says the Talmud, to detect the presence of one or the other in a garment (Nidah 61*b*).

corners. This garment is called an *arba kanfoth* (four corners).

In the Middle Ages, too, great stress was laid on neatness of dress. Abrahams[1] quotes the advice of a Jewish parent of the fourteenth century to his children: "Accustom yourselves and wives, your sons and daughters, to wear nice clean clothes, that God and men may love and honour you." And in the sixteenth century the translator of Maimonides wrote to his son: "Honour thyself, thy household, and thy children, by providing proper clothing as far as thy means will allow; for it is unbecoming in a man, when he is not at work, to go shabbily dressed. Withhold from thy belly, and put it on thy back."

General Hygiene.

Sunshine.—When Alexander the Great asked Diogenes whether he could do anything for him, the wise old man of the tub answered: "Yes—get out of my sunshine." But the value of sunshine was known to the Jews long before the time of Diogenes. Its curative properties were recognized by Malachi, who spoke metaphorically of "the Sun of Righteousness . . . with healing in His wings."[2] King Solomon says: "Truly the light is sweet, and a pleasant thing it is for the eyes to behold the sun."[3] The value of sun baths was also realized in the Talmud.[4] "When the sun appears," says a Talmudic proverb, "the patient recovers."[5]

[1] *Op. cit.*, pp. 276, 277.
[2] Mal. iv. 2.
[3] Eccles. xi. 7.
[4] Nedarim 8*b*.
[5] Baba Bathra 16*b*.

The following is a metrical translation of a curious myth found in the Talmud (Baba Bathra 16*b*):

"A precious pearl wore Abraham
Around his neck revealed,
And when the sick had gazed on it
Each one at once was healed;
And when at length the patriarch
From life had passed away,
God took and hanged that precious pearl
Upon the orb of day."[1]

Maimonides, the great Jewish philosopher and physician of the twelfth century, was well aware of the germicidal effects of sunlight, for he attributes to the sun the property of "destroying the evil odours of the air."[2]

Fresh Air.—The value of fresh air was also known in the time of the Talmud,[3] and open windows are mentioned in Daniel;[4] while Maimonides speaks of the great influence that fresh air has upon the physical and the mental welfare of the individual.[5] The cleansing properties of air in motion are also referred to in Job xxxvii. 21. It is healthier to live in an unfortified town, because it is not so overcrowded as a fortified one, and therefore the houses have gardens and parks whose air is fresh.[6] The therapeutic value of mountain air is also mentioned in the Talmud. Rabbi lived in Beth-Shëarim, but when he became ill he was removed to Zippori, which had a high altitude, and whose air was salubrious and fragrant in consequence.[7]

The Talmud attaches great value to the north wind

[1] "Gems from the Talmud," 153.
[2] "Regimen Sanitatis," iv. 1.
[3] Baba Metzia 107*b*.
[4] Dan. vi. 10.
[5] *Loc. cit.*
[6] Kethuboth 110*b*, Rashi, *ad loc.*
[7] *Ibid.*, 103*b* and 104*a*.

as a life-preserving agent. "Four different winds," says the book, "are blowing daily, but the north wind blows together with every one of them; for if that were absent the world could not exist for one moment. The south wind, however, is the most intolerable one of them all. . . ." Rabba in the name of Rav says that the east wind is also very injurious, in that it causes pregnant women to abort. Samuel says that it causes even the pearls in the sea to rot, and R. Jochanan affirms that even the semen inside the womb putrefies as a result of it.[1]

The equable temperature of the air is caused by the heat of Orion (Kesil) and the cold of Scorpion (Kimah) being blended together; if it were not for the first the world would perish from cold due to the second, and without the cooling influence of the second the world would perish as a result of the enormous heat of the first.

Food.—The Talmud lays down certain hygienic principles with regard to food.

(*a*) *Quantity.*—One must guard against overloading the stomach. One of the aphorisms of Rabbi was, "More people die from eating too much than from eating too little,"[2] a saying now usually but erroneously attributed to Napoleon. Slow eating with thorough mastication is recommended as one of the three things which prolong life, the other two being prolonged prayer and regular leisurely attention to the bowels.[3]

(*b*) *Quality.*—As regards the nature of the food, the following are the more important articles of diet recommended: Bread (especially when made from fine

[1] Gittin 31*b*, B. Bathra 25*a*.
[2] Sabbath 33*a*; see also Gittin 70*a*.
[3] Berachoth 54*b*.

flour), rice, lentils, milk, meat (especially fat meat), oil, fish, eggs, vegetables, and fruit. Thus, fine bread and fat meat are said to promote growth, to be easily digested and absorbed, and to improve sight.[1] Soft-boiled eggs are credited to be equal in nutritive value to an equal volume of meat or to six measures of fine flour,[2] and meat is stated to give rise to three times as much energy as pearl barley.[3]

Modern physiological chemistry, indeed, teaches that meat and eggs contain weight for weight the same amount of digestible nitrogenous substances (proteins) —viz., about 20 per cent.—but that barley only contains about half the amount of protein as an equal weight of meat—viz., about 10 per cent. A youth who at puberty eats about ¾ pound of meat, and drinks ¼ pint of Italian wine, is a gourmand. According to R. José, the limits are 1½ pounds of meat and ½ pint of wine.[4] Maimonides recommends that youths under the age of twenty-one should abstain from wine altogether.[5]

To eat when the bowels are full is like making a fire in a stove from which the ashes have not been removed.[6]

To look at the food helps digestion, and therefore blind persons cannot enjoy their food well because they do not see it.[7] We now know that the sight of food makes the mouth water, because it calls forth the digestive secretions. Professor Pawlow's famous experiments on animals to show the effect of mind upon digestion are detailed in every recent textbook on physiology.

[1] Pessachim 42*a* and *b*.
[2] Berachoth 44*b*.
[3] Nedarim 49*b*.
[4] Sanhedrin viii. 2 (70*a*).
[5] Book of Medicine xxv.
[6] Berachoth 41*a*.
[7] Yoma 74*b*.

One should not eat fancy foods. "Animals eat the plainest of foods, and yet look how healthy they are."[1] If a person asks, "What shall I eat with my bread?" take the bread away from him (because he is not hungry).[2] Fish and meat should not be eaten together; to do so causes a foul smell from the mouth and skin disease.[3]

Young girls who drink milk and eat poultry grow up beautiful.[4]

If one does not walk at least 4 cubits (2 yards) after meals, the food does not get digested.[5] Early breakfasts are very healthy.[6] "Sixty runners cannot overtake one who had an early breakfast."[7] Too much meat is unhealthy. In the Temple there was a special doctor appointed to attend the priests for intestinal trouble caused by their excessive eating of the flesh of sacrifices,[8] and they were treated by drinking the waters of Siloa.[9] This is one of the only two references in the Talmud to internal medication by means of mineral waters. The other reference is in Sabbath 110*a*.

Attention to Calls of Nature.

One must not postpone any of nature's calls.[10] "As soon as your pot boils," says the Talmud, "you must empty it.[11] Train yourself into the habit of having an action of the bowels every morning and evening."[12] A morning evacuation is as useful to the body as polish is to iron.[13] A Roman lady once offensively said to R.

[1] Eccles. R. i. 18.
[2] Sanhedrin 100*b*.
[3] Pessachim 112*a*.
[4] Kethuboth 59*b*.
[5] Sabbath 41*b*.
[6] Baba Kama 92*b*.
[7] *Ibid.*, and B. Metzia 107*b*.
[8] Shekalim ii. 14, 15.
[9] Abb. d'R. Nathan xxxv. 5.
[10] Maccoth 16*b*.
[11] Berachoth 62*b*.
[12] Tamid 27*b*.
[13] Berachoth 62*b*.

Juda ben Ilai that he looked as well nourished as if he were a breeder of swine or a usurer, and he replied: "Both are prohibited to Jews, but on the way between my house and the Academy there are twenty-four public conveniences, so that I have an opportunity of answering nature's calls as soon as it is necessary."[1]

To press oneself during defæcation may cause piles or prolapse.[2] To keep back a defæcation may cause dropsy.[3]

Dates in the morning and evening are very useful as a preventative against piles.[4]

Not to micturate when the desire comes was believed to cause anæmia.[5] This erroneous belief may have arisen, perhaps, from a knowledge that suppression of urine and anæmia generally occur together. It may also cause swelling of the abdomen.[6]

Although modesty demands that one should not drink in public, yet one may micturate in front of other people, on account of the danger of waiting. It is said that Mar bar Rav Ashi was going to micturate, when he was told that his mother-in-law was coming, and he cynically remarked that he would even do it in her ear, let alone in front of her.[7]

Exercise.

Great importance was attached to all kinds of exercise. R. Tarphan said that "man dies as a result of idleness."[8] Work of any kind promotes bodily and

[1] Berachoth 55*a*. [2] Sabbath 62*a*. [3] Bechoroth 44*b*.
[4] Kethuboth 10*b*. [5] Berachoth 62*b*. [6] Bechoroth 44*b*.
[7] *Ibid.* [8] Abboth d'Rabbi Nathan i. 1.

mental health; for not only does it honour the person who indulges in it,[1] but it also "warms the body"[2] (by stimulating the circulation) and induces sound sleep.[3] "Idleness is the mother of all evil."[4]

The alternation of rest and exercise, which is so important in the open-air treatment of tuberculosis, is laid great stress on in the Talmud. Thus there is an aphorism: "Divide your time into three equal parts—one for sitting, another for standing, and a third for walking."[5] The kinds of exercise mentioned in the Talmud for school children are playing with balls[6] and lifting of weights to various heights according to the strength of the child.[7] Swimming is specially recommended[8] (see Chapter XVIII., p. 294).

Value of a Cheerful Disposition.

The saying that "an ounce of worry is enough to kill a man" has its origin in the Talmud. Rav said that "a sigh destroys half the body . . . and R. Jochanan said the whole body."[9] Tears of sorrow are bad, but tears of joy are good for the eyes.[10] A certain sage named Rav Broka once met Elijah the prophet in the street, and asked him whether he could single out any of the passers-by as worthy of future bliss. Elijah pointed out two men. Anxious to find out what it was that earned them such a reward, the Rabbi went to

[1] Nedarim 49*b*. [2] Gittin 67*b*. [3] Eccles. v. 11.
[4] Kethuboth 59*b*. [5] *Ibid.*, 111*a*.
[6] Tosefta Sabbath x. 3. [7] Commentary to Zech. xii. 4.
[8] Kiddushin 29*a*.
[9] Berachoth 58*b* and Kethuboth 62*a*.
[10] Sabbath 151 and 152.

them and asked them what was their calling. "We are comedians," was the answer. "We try to make people cheerful, and when we see friends that have quarrelled we try to reconcile them."[1]

Sleep.

Night is made for sleep, and he who willingly keeps awake at night, except for study, commits a grievous sin.[2] R. Dosa ben Horkinas said that sleeping in the morning and drinking wine in the afternoon put a man out of the world.[3]

For the purpose of study one may sit up at night. Rish Lakish said that the moon was created only to enable scholars to study.[4] The study of the law should be practised at all times, for, as R. Chisda said, there will be plenty of time to sleep when one is dead.[5] But in spite of this the Talmud says that he who took a vow not to sleep for three nights in succession is to be given thirty-nine stripes and be allowed to sleep.[6] In any case, during the day one must not sleep longer than "sixty breaths of a horse."[7] This phrase is a Babylonian expression to signify an indefinite but short space of time. According to a commentator, however, a traveller in Arabia observed that sixty breaths of a horse takes more than half an hour.[8]

One must not sleep in one's boots[9] or on the floor.[10] A person requires in general eight hours' sleep,[11] although the exact number of hours varies with the individual.[12]

[1] Taanith 22*a*. [2] Abboth iii. 4. [3] *Ibid.*, iii. 10.
[4] Erubin 65*a*. [5] *Ibid.* [6] Nedarim 15*a*. [7] Succah 26*b*.
[8] See commentary of Ch. M. Margolis to Orach Chayim iv. 16.
[9] Yoma 78*b*. [10] Berachoth 62*b*.
[11] Maimonides, Hilchoth Deoth iv. 4.
[12] Boër Heteb to Orach Chayim i. 2.

In any case, the sleeping hours should terminate at dawn. One must not sleep on one's back or on one's face, but on the side: at the beginning of the night on the left side, and at the end on the right side.[1] One should not go to sleep immediately after supper; an interval of three or four hours should be allowed to elapse.[2] The best sleeping remedy is exercise. "Sweet is the sleep of the worker," sang Solomon.[3] A dark room also favours sleep, and hence it is permissible to extinguish a light on the Sabbath to enable a sick person to sleep.[4] Another mode of inducing sleep was to drop water by means of a pipette on a piece of tin-plate.[5] A similar remedy was advocated by Alexander of Tralles in the sixth century, who explained its efficacy by saying that the slight noise lulls the person to sleep.[6] (Compare Chapter XII., p. 195.)

Physiology of Sleep.

It was known that there was a certain relation between sleep and digestion,[7] for "it is well known that after meals a person feels tired."[8] According to modern physiological principles, digestion determines a flow of blood to the gastro-intestinal capillaries, thus depriving the brain of blood and making the person feel sleepy. Sleep and death are analogous to each other; indeed, sleep is one-sixtieth of death.[9] Sleep is to death what an unripe is to a ripe fruit.[10]

[1] Maimonides, *loc. cit.* [2] *Ibid.* [3] Eccles. v. 11. [4] Sabbath ii. 5.
[5] *Ibid.*, ii. 8; Erubin 104*a*, Rashi; and J. Erubin x.
[6] See Preuss, *op. cit.*, p. 155. [7] Berachoth 61*b*.
[8] Yoma 18*a*. [9] Berachoth 57*b*.
[10] Gen. R. xvii. 5. Ovid calls sleep the image of cold death: "Quid est somnus, gelidæ nisi mortis imago?" and Shelley speaks of "Death and his brother Sleep."

CHAPTER XVIII

THE GENERAL EDUCATION OF THE JEWISH CHILD

"The teacher and the school children form the most beautiful ornament of mankind; and, like a costly coronet of pearls intended for the adornment of queens and princesses, they are worthy of occupying the highest and foremost place in society" (Cant. R. i. 10).

THERE is probably no nation in the world among whom the zeal for study is greater than it is in the Jewish race. Knowledge, said R. Nehurai, is better than any occupation in the world.[1]

It is narrated of a learned man that he was once travelling on a ship in company with many merchants. The ship was attacked by pirates, who confiscated all the valuable merchandise carried by those people. When the passengers landed they had nothing wherewith to buy food and clothes, but the scholar went to the Academy and earned both money and reputation by delivering learned discourses.[2]

No sacrifice was considered great enough to make in order to gain knowledge. "A morsel of bread," said the Mishna, "shalt thou eat, and water by measure shalt thou drink; thou shalt sleep on the ground and live a life of trouble, so long as thou toilest in the Torah."[3] That this was carried out in the letter as well as in spirit is seen from the following incidents in the lives of

[1] Kiddushin 82*b*.
[2] Old Tanchuma to T'ruma.
[3] Abboth vi. 4.

Hillel and R. Eliezer the son of Hyrcanus. Hillel, who was a wood-cutter, was very poor, and earned a couple of coppers a day; but half of his earnings he was in the habit of paying for admission into the Academy every day. One winter day he did not earn anything, and rather than miss his lesson he went on to the roof of the Academy in the evening, and listened through the skylight. He became so absorbed in the lecture that he was completely submerged in snow. He was only discovered the next morning because his body obstructed the light to the Academy.[1]

Of R. Eliezer the son of Hyrcanus it is narrated that he was one of several very ignorant sons of an extremely rich farmer. Much against his father's wish, he, at the age of twenty-two, ran away to Jerusalem and joined the school of R. Jochanan ben Zakkai. He suffered a lot of hardships, and on one occasion went as long as eight days without tasting food; but he did not complain, and eagerly imbibed knowledge from the fountain of R. Jochanan, who, recognizing his sterling qualities, took him into his house and treated him as a member of his family. It was not long before Eliezer became so great a scholar that he was acknowledged to be the pride of the Academy. In the meantime his father, urged by his sons, disinherited Eliezer, and went up to Jerusalem to ratify his act legally; and whilst there he visited the Academy of R. Jochanan, to which all visitors flocked.

It happened to be Eliezer's turn to deliver the discourse, and the people listened awe-inspired to his great eloquence and wisdom. At the end of the lecture the principal, full of admiration, came up to the lec-

[1] Yoma 35*b*.

turer and fervently kissed him on the forehead, exclaiming: "O blessed son of Hyrcanus! Happy is Israel to have such a teacher!" When Hyrcanus discovered the identity of the lecturer, he rushed up to him, clasped him to his breast, and, with tears in his eyes, told him of the object of his visit to Jerusalem. "But," added Hyrcanus, "I have changed my mind. Thou shalt be the sole heir of all my wealth." "Nay, father," answered Eliezer, "I bear my brothers no ill will; let each have his portion. If I wanted money, God would give it to me, for He said: 'Mine is silver, and Mine is gold.'[1] I hunger only for learning, which alone can satisfy me."[2] The Talmud says laconically that "a disciple of the wise should not eat vegetables, because they excite the appetite."[3]

The principles of education laid down in the Bible, Talmud, and later Jewish writings, are such as are now from time to time embodied in all the Education Acts.

It was known that the best time for study was in one's youth, for the information then becomes absorbed in the blood.[4] "To teach a young child," says the Mishna, "is like writing upon new paper, whilst to teach an older person is like writing upon paper which has already been written upon" (the new writing is illegible).[5] Further, one who has learned in his youth is like a doctor who is an expert both with drugs and with the knife; but he who learned only when old is like a doctor who can only use the knife.[6]

We have seen in Chapter XII., p. 196, that even from the very cradle it is the ambition of Jewish parents to

[1] Hag. ii. 8.
[2] Abb. d'R. Nathan vi., Betza 13.
[3] Sabb. 140*b*.
[4] Abboth d'R. Nathan xxiv.
[5] Abboth iv.
[6] Abb. d'R. Nathan xxiii. 4.

see their sons grow up learned men, and no sacrifice is too great for them to make in order to realize that ambition. Josephus[1] says that from their birth the Jews are taught to respect their sacred books. He further says—although he, no doubt, slightly exaggerates—that "for our people, if anybody but ask any one of them about our laws, he will more readily tell them all than he will tell his own name, and this is a consequence of our having learned them immediately, as soon as ever we became sensible of anything."[2]

Seneca corroborates this, for he says that the Jews "at least know the reason of their ceremonies; but the mass of the rest of mankind do not know why and what they do."[3]

The school was looked upon as the most important institution, even more sacred than the house of worship,[4] and the world was said to exist only by the breath of school children.[5] To live in a town which had no school was considered to be a sin,[6] and the fate of such a town was ultimate destruction.[7] Indeed, the destruction of Jerusalem is attributed to the fact that schools and school children ceased to exist there.[8] School children and teachers were therefore considered as the guardians of a city, even more so than the police and the army.

The Midrash tells a pretty anecdote about a commission of educationists who were sent out to establish

[1] "Contra Apion," i. 8.

[2] *Ibid.*, ii. 18; *cf.* also Sifre Deut. 34 and 34*a*, and Kiddushin 30*a* and *b*.

[3] Augustine, "De Civ. Dei," vii. 11; *cf.* also Philo, "Legat. ad Caium," 31, and Succah 42*a*.

[4] Sanhedrin 71*a*.

[5] Sabbath 119*b*.

[6] Sanhedrin 17*b*.

[7] Shabbath 119*b*.

[8] *Ibid.*

schools wherever necessary. They arrived at a city where no schools existed. They called a meeting of the chief citizens of the place, and asked them to produce the protectors of the city. The soldiers were summoned, then the magistrates and other officials, but they were all rejected in turn. "The protectors of a city are its teachers!" was the indignant reply of the sages.[1]

As soon as a child begins to speak its religious education begins. This consists in teaching it the Shema (which proclaims the unity of God) and the verse "Moses commanded us a Torah, the inheritance of the congregation of Jacob."[2]

It is narrated of R. Joshua ben Chananya that his mother, who intended him from his birth to be a Rabbi, used to carry him in his cradle to the Academy, so that his ears might get accustomed to the sounds of the words of the Torah.[3] At the age of three years the alphabet was taught,[4] and such instruction was given on the lines of moralization. Thus:

Aleph	means	Learn
Beth	,,	Wisdom.
Gimmel	,,	Be kind to
Daleth	,,	The poor,
Heh	,,	(And)
Vav	,,	God
Zaen	,,	Will nourish thee,
Cheth	,,	Show thee grace,
Teth	,,	Do good unto thee,
Yod	,,	(And give thee) an inheritance,
Chaph	,,	And make thee a crown
Lamed	,,	(In the world to come).[5] (Etc.)

[1] Pesikta, Lam. R. 2, also Midrash Psalms cxxvii. (Jer. Chagiga i. 7).

[2] Deut. xxxiii. 4. Succah 42*a* and Kiddushin 29*a*.

[3] Abboth iii., Jer. Yebam. 1. [4] Midrash. [5] Sabbath 104*a*.

At the age of six the child was in Talmudical times sent to school, but not before it was medically examined as to its physical fitness to receive instruction; and if it was found unfit it was not sent to school for another year.[1]

To send a child to school before the age of six years was considered as endangering its life by overtaxing its feeble constitution with premature instruction.[2] Rav said to R. Samuel the son of Shiloth: "Do not receive a pupil under the age of six years, but after that age stuff him like an ox."[3] Before going to school the child was carefully washed and dressed, and it was considered a duty and a privilege for the mother or elder sister to accompany the young scholar to school.[4] A mother who on account of her domestic duties neglected this obligation was reprimanded,[5] for the duty of taking a child to school precedes everything. Originally it was the duty of the father to teach his child,[6] and he who teaches his children the Torah is as meritorious as if he received it himself from the mount of Horeb.[7] The same applies to him who hears his son repeat a portion of the Torah every Sabbath eve (see Plate I.). R. Joshua ben Levi on one occasion forgot to do so, and went to have a bath. When he reached the bath-house he remembered the omission, and immediately returned home for the purpose.[8] He who neglected to teach his son was dubbed "an ignorant boor."[9] In

[1] Baba Bathra 21*a*; *cf.* Tosefoth, *ad loc.*
[2] Kethuboth 50*a*, Rashi, *ad loc.*
[3] Baba Bathra 21*a*.
[4] Berachoth 17*a*; *cf.* Jer. Kiddush. iv. 2.
[5] Jer. Challah 1*a*.
[6] Berachoth 28*a*.
[7] *Ibid.*, 21*b*, and Kiddushin 30*a*.
[8] Jer. Sabbath 1.
[9] Sotah 22*a*, Rashi, *ad loc.*

order, however, to prevent fatherless children from growing up ignorant, Joshua ben Gamla established schools in every town and village, with compulsory education for all boys above the age of six years.[1] This act of Joshua had a very lasting effect. Schools were established everywhere, and were exceedingly well attended.

One of the exaggerations in which some of the Rabbis delighted states that "in the town of Bithar there were 400 schools, each of which had 400 teachers, and each of these had 400 children under his charge."[2] This, if taken literally, would, of course, imply a population of sixty-four million school children.

A very high tribute is paid in the Talmud to the educational work of this great pioneer. "Verily," says the Talmud, "may the memory of Joshua b. Gamla be blessed; for were it not for him knowledge would have been entirely forgotten in Israel."[3]

If there was no school in one's own town, it was not compulsory to send a child to school in a neighbouring town, for fear of accident (except when the two towns were not separated by a river, or when there was a well-built bridge over it); but one could compel the community of his own town to build a school.[4]

School Hygiene.

The Construction of the School Building.—The school, like the synagogue, which, indeed, were often one and the same building, was the most important public building from an architectural point of view. It was very

[1] Sotah 22*a*.
[2] Gittin 58*a*.
[3] Baba Bathra 21*a*.
[4] *Ibid.*

lofty and well ventilated. Indeed, Rav said that "every town in which the houses are higher than the synagogue (or school) has destruction in store for it."[1] The prescribed minimum superficial area of an ordinary room was 16 square cubits—*i.e.*, 4 square yards.[2] According to another authority, the smallest room was 6 by 8 cubits—*i.e.*, 12 square yards; and an average room was 8 by 10 cubits, or 20 square yards. A very large hall was 10 by 10 cubits, or 25 square yards. The proper height of a room was half the sum of its length and breadth.[3] That it was well lighted is inferred from the following fact: It is the Jewish law to search for leaven bread in the nooks and corners of every house on the eve of Passover. This, even at the present day, is carried out by means of candlelight on the preceding evening, because one cannot be sure that the house would admit sufficient light to make the search efficient during the day; but, in the case of schools, a Rabbi once asked the question whether, in virtue if their good lighting, "it would not be permissible to carry out this duty in the daytime."[4] It was forbidden to have a synagogue which had no widnows.[5] The Shulchan Aruch is very stringent, and requires twelve windows to each synagogue.[6]

The school had a big open playground, where there[7] was also a well or big water reservoir for the children to wash their hands and feet,[8] and it was the prerogative of religious women to draw water for the children.[9]

Open-Air Schools are also mentioned in the Talmud,

[1] Shabb. 11*a*.
[2] Succah 3*a*.
[3] Baba Bathra 98*b*.
[4] Jer. Pessach. i. 1.
[5] Berachoth 34*b*.
[6] Orach Chayim 90, 4.
[7] Gen. R. i. 11.
[8] Jer. Megillah iii. 3.
[9] Jellinek. Bath Hamidrash i. 84.

and their object was to avoid overcrowding. R. Judah the Prince, however, objected to instruction in the open air on account of its publicity.[1] (See W. M. Feldman, "Jewish Children and Open-Air Education," in the "Year-Book of Open-Air Schools and Children's Sanatoria," London, 1915, pp. 138–142.)

School Management.

Each teacher had only twenty-five pupils under his care; for fifty pupils two teachers were required; and in the case of forty children an additional pupil teacher had to be appointed, and his expenses were paid by the community.[2] The children sat in semicircles around and facing the teacher, so that each pupil could see and hear him. The master was on an elevated chair,[3] whilst the pupils were seated on benches near the floor.[4]

As a mark of distinction, a pupil was occasionally elevated to one of the Rabbis' chairs. When it was demanded by the people that Judah the son of R. Simon ben Gamliel should be raised to one of these chairs, his father objected, and said: "I have one dove among you, and do you wish to take him from me by destroying him with the evil-eye?"[5]

School Discipline.

1. Punctuality of attendance was enjoined. Rabbi said: "Fix a time for instruction; that is, appoint a precise time for your pupils, that they should know when

[1] Sabb. 127*a*, Moed Katon 16*a*.
[2] Baba Bathra 21*a*. [3] Midrash R. Song of Songs i.
[4] Maimonides, Hachasakah Hilchoth Talm. Torah iv.
[5] Baba Metzia 84*b*, Rashi.

to come and go."[1] Absence from school for three days was considered reprehensible, and regularity of attendance was rewarded by means of presents. Rav was in the habit of distributing fish.[2] In the award of prizes for punctuality or special merit, however, the teachers had to observe strict impartiality.[3] Even at the present time the regularity of attendance of Jewish school children is proverbial. Thus, according to Dr. A. Eichholz, whilst the average attendance of non-Jewish school children in England is about 80 per cent., and by dint of great effort (police and public machinery) in London, as a whole, you can get 82 per cent. to 83 per cent. to favour school with their presence, no Jewish school is satisfied with an attendance of less than 90 per cent., and in Leeds there is one school which for two years never had less than 99 per cent.—an almost incredible result.[4]

2. No pupil was allowed during lessons to leave his seat without the teacher's permission.[5]

3. No questions were to be asked which had no reference to the subject taught.[6]

4. Two pupils must not ask a question at the same time.[7]

5. No pupil should ask a question at the moment when the master enters the school.[8]

6. Pupils must thoroughly prepare and learn the lesson given them for each day.[9]

[1] Erubin 54*b* and Rashi, *ad loc.*
[2] Taanith 24*a*. [3] Sabbath 13*a*; see also *ibid.*, 10*b*.
[4] A. Eichholz, "The Jewish School Child," 1903, pp. 3, 4.
[5] Sabbath 13*a*, Rashi. [6] *Ibid.*, 3*b*.
[7] Maimonides, Hilchoth Talmud Torah iv. 6.
[8] *Ibid.* [9] Kethuboth 69.

7. In selecting your seat, try to be facing your teacher.[1]

8. A pupil who is not scrupulously truthful must not be allowed into the schoolroom.[2]

At first the pupils were taught in unsystematic relays, until a Rabbi of the fourth century called attention to the evil, and the hours of instruction were limited to five daily and were fixed for the early morning and the evening.[3] Also on Friday afternoon and Saturday the schools were closed.[4]

School Curriculum.

The child having mastered the alphabet, the study of the Bible began. The Bible instruction commenced, not with Genesis, but with Leviticus—viz., with that portion which treats about sacrifices, the reason being that "the children which are pure ought to learn about sacrifices which are pure."[5] The study of the Bible lasted until the child was ten years old. During that time the child must have been taught writing and drawing, for we find that even in the time of Judges and Isaiah young boys could write. Gideon, we are told, "caught a young man of the men of Succoth . . . and he wrote for him the names of the princes and elders of Succoth."[6]

As further evidence of the ability to write having been common amongst the ancient Hebrews, we have the fact that the writing of many documents, such as divorces[7] and plans,[8] is referred to in various places in

[1] Kethuboth 69.
[2] Berachoth 28*a*.
[3] Erubin 54*b*.
[4] Nedarim 7*a* and Orach Chayim ccli.
[5] Lev. R. vii.
[6] Judg. viii. 14; see also Isa. x. 19.
[7] Deut. xxiv. 1, 3.
[8] Josh. xviii. 9.

the Bible. The writing implements that were used were pens,[1] ink,[2] lead pencil,[3] and paper,[4] or the point of a diamond and a tablet.[5] Spelling and arithmetic must also have been taught, for copy-books, spelling and arithmetic books, of that time, with complete multiplication tables from 1 to 60, have been discovered by Drs. Peters and Hayes at Nippur. Such tablets are also to be found in the British Museum.[6]

Between ten and fifteen years of age the child studied the Mishna;[7] after that he was instructed in the Gemara. Elocution must also have been taught, for clearness of enunciation is one of the attributes mentioned in the Talmud as helping to preserve knowledge.[8] The Talmud relates that as a result of faulty pronunciation on the part of his teacher, Joab "cut off *every male* in Edom,"[9] instead of carrying out the Biblical injunction to blot out *all remembrance* of Amalek.[10] When David asked Joab why he spared the females, he replied: "My teacher taught me to read, Thou shalt blot out *Zachar Amalek* (the male portion of Amalek), and not *Zecher Amalek* (the remembrance of Amalek)." For having taught Joab in such a faulty manner, his teacher was condemned to death, in accordance with the principle, "Cursed be he that doeth the work of the Lord deceitfully.[11]

[1] Hab. ii. 2.

[2] Judg. v. 14 and Jer. viii. 8, xxxvi. 18. Invisible ink is mentioned in Gittin 19*b*, and indelible ink in Erubin 13*a*.

[3] Jer. xxxvi. 18. [4] Job xix. 24. [5] Isa. viii. 1

[6] Jer. xvii. 1; also H. M. Lazarus, "Schools and Methods of Jewish Education in Babylon up to the Time of the Talmud," London, M.A. Thesis 1913, § 43. [7] Abboth v., Kethub. 50*a*.

[8] Erubin 53. [9] 1 Kings xi. 16. [10] Deut. xxv. 19.

[11] Jer. xlviii. 10. Baba Bathra 21*a*.

At a later age mathematics, astronomy, anatomy, biology, and medicine, were studied, because these sciences were in daily demand for religious purposes. The determination of the calendar required a sound knowledge of astronomy; the administration of the dietary laws necessitated not only a classification of all animals into clean and unclean, with distinguishing signs between them, but it also demanded a knowledge of morbid anatomy and pathology, to be able to recognize post mortem whether an animal that was killed for food had previously suffered from some disease which was likely to shorten life. Further, legislation for the right of the poor to participate in harvests, rules for tithes, and cognate matters, required a knowledge of botany and the classification of plants; whilst the laws in connection with the making of an *erub* for the purpose of extending the distance which a Jew is allowed to carry something on the Sabbath-day, legislation regarding the sowing of fields—in which, according to Lev. xix. 19, two kinds of seed may not be sown within a certain distance of each other—as well as certain other religious observances, demanded a knowledge of mathematics.

We shall deal with some of the mathematical problems in the Talmud in the next chapter. Here it will suffice to state a few of the mathematical principles found in the Talmud, and to indicate the high esteem in which a thorough mathematical knowledge was held by the Rabbis.

R. Gamliel considered geometry and astronomy as the periphery of wisdom.[1] Samuel said that he was as perfectly acquainted with the roads of the skies as

[1] Abboth iii. 18.

he was with the streets of Nahardea,[1] and of R. Eliezer Chisma and of R. Jochanan ben Gudgada it was said that they could count the drops of the ocean.[2] Charts illustrating various phases of the moon used to hang in R. Gamliel's study,[3] and an instrument resembling a telescope or a theodolite is mentioned.[4] Indeed, it is stated in the Talmud that the Jews were famous for their knowledge of astronomy and mathematics.[5] Measurements were carried out by means of a rope 50 cubits long, and it is further stated that the same rope should not be used for summer and winter, on account of the errors arising from expansion and contraction.[6]

The periods of rotation of certain stars and planets are given[7] with, in some cases, a fair approximation to truth. Thus, for the sun it is twelve months, for the moon thirty days; Jupiter (Tzadok) completes his rotation in twelve years (his actual period being 4,330 days, or 11·8 years). The period of Saturn's (Shabbathi) rotation is given as thirty years (his actual period being 10,746 days, or 29·4 years). The sidereal period of Venus (Nogah) is given as ten months, which is fairly wide of its actual period of 224·7 days. Mars (Maadim) was said to travel round the sun in eighteen months (its real period, as we now know it, is 686 days, or more nearly two years).

The earth is, according to R. Jonah, spherical,[8] and, in accordance with the ptolemaic system, it is the centre

[1] Berachoth 58*b*; and yet he confessed that he did not know the nature of comets.

[2] Horyoth 10*a* (see footnote 1, p. 290).

[3] Rosh Hashanah ii. 6. [4] Erubin 43*b* [5] Sabbath 75*a*.

[6] B. Metzia 61*a* and B. Bathra 89*b*. [7] Gen. R.

[8] Jer. Ab. Zarah iii.

around which the planets rotate.[1] R. Nathan, however, who lived A.D. 200, states that the earth is under a planet which is always facing us wherever we go. Hence the earth is not the centre.[2] The circumference of the earth at the equator is given as 6,000 parsahs—*i.e.*, 15,000 miles (a parsah = 2½ English miles).[3] (The real equatorial circumference is 24,899 miles.) The elliptical notion of stars is indicated by R. Eliezer and R. Joshua.[4]

The sun causes plants to grow, and the Talmud also mentions the phenomenon known as "heliotropism." Thus, it says that there is a plant called Adoni whose leaves point to the sun: in the morning they are directed eastwards; at noon they point upwards; and at sunset they point to the west. Indeed, the last was a sign that sunset had arrived.[5]

Samuel and Ada bar Ahaba were famous astronomers, and each one had a system for equalizing lunar and solar years.[6] Samuel also made an almanac for sixty years, and sent it to R. Jochanan.[7] A lunar year is never less than 352, and never more than 356, days.[8] The average lunar year consists of 354⅓ days and 876 portions.[9] The length of a lunar month is remarkably accurately given by Gamliel ben Simon, a pupil of R. Jochanan ben Zakkai, as 29 days, 12⅔ hours, and $\frac{73}{1080}$ parts of an hour,[10] a value which differs from the modern accepted value by only ½ second. This value is still used by the Jews in their Calendar.

1 Pessachim 94*b*.
2 *Ibid.*, 94*a*.
3 *Ibid.*
4 Baba Bathra 29.
5 Sabbath 35*b*, Rashi.
6 Erachin 8*b et seq.*, Pirkë R. Eliezer vii.
7 Chulin 95*b*.
8 Erachin 9*b*.
9 Pirkë R. Eliezer, 360.
10 Rosh Hashanah 25*a*.

A remarkable passage in the Talmud seems to refer to some comet, supposed by some to be Halley's comet. Rabbi Gamliel and Rabbi Joshua (ben Chananya) undertook a sea-voyage. The former took with him a supply of bread, whilst the latter also provided himself with some fine flour. After Gamliel had eaten his bread he had to use Joshua's flour. "Did you know," asked Gamliel, "that the journey was going to take so long, that you brought flour with you?" And Joshua answered: "A star appears every seventy years, and leads the ships astray by causing the helmsman to steer by it erroneously. Not to be inconvenienced by such an accident, I provided myself with an extra supply of flour."[1] As the voyage here mentioned must have taken place between 80 and 115 C.E., and as astronomical calculations determine the year 66 as one of the periodic returns of Halley's comet, R. Joshua's comet could not have been the same as Halley's.[2]

The Rabbis estimated astronomical distances in terms of the time it would take an average man to walk them, allowing 10 parsahs (or about 25 English miles) to a day's march. The diameter of the earth is given by some as a fifty years' journey (*i.e.*, 254,980 miles).[3] The distance between the earth and the sky was ten

[1] Horyoth 10*a*, and Rashi. The end of this story is interesting for its biting satire. R. Gamliel, astounded by the great learning of R. Joshua, expressed surprise that such a clever man should be compelled to travel abroad to make a living, but the latter replied: "Thou art surprised at me? Rather be thou surprised at the great scientists R. Eliezer Chisma and R. Yochanan ben Gudgada, who can count the drops in the ocean, and yet have neither bread to eat nor clothes to wear!"

[2] See S. Brodetski, "Astronomy in the Babylonian Talmud," *Jewish Review*, May, 1911, p. 72.

[3] Jer. Berachoth iv.

times as much.[1] The greatest height of the clouds is about $7\frac{1}{2}$ miles (3 parsahs).[2] Between the beginning of sunset and the moment when the sky near the eastern horizon loses its red tint, an average man can, according to R. Nehemiah, walk half a mile[3] (or about one-third of an English mile)—*i.e.*, an interval of about $\frac{1}{75}$ of a day, or 19·2 minutes (19 minutes 12 seconds). This estimate of 19·2 minutes for the duration of twilight in Palestine is in accordance with modern observations (adopting the modern definition of twilight as the time taken by the sun to sink 18° below the horizon, and allowing for the correction due to atmospheric refraction).[4]

The sabbatical year is the name given to every seventh year, during which the Hebrews were not to sow their fields or prune their vineyards.[5] In order to be able to determine whether any given year was a sabbatical year, R. Huna the son of R. Joshua gave the following test for the divisibility of any number by 7: "Multiply the hundreds in the given number by 2, and add the product to the tens and units of that number. If that sum is divisible by 7, the whole number is divisible by 7. Any remainder represents the remainder left when the whole number is divided by 7."[6] This rule, of course, depends on the fact that $100=98+2=7\times14+2$.

To take an example: Consider the number 1,087,643. Applying the rule, we have $10{,}876\times2+43=21{,}795$; $217\times2+95=529$; $5\times2+29=39$; $\frac{39}{7}=5\frac{4}{7}$.

[1] Chagiga 15*a*.
[2] Baba Bathra 75*b*.
[3] Sabbath 34*b* and 35*a*.
[4] See Brodetski, *loc. cit.*, July, 1911, p. 165.
[5] Exod. xxiii. 10, 11; Lev. xxv. 2-7; Deut. xv. 1-11, xxxi. 10-13.
[6] Ab. Zarah 9*b*.

Therefore when the original number is divided by 7 the remainder is 4.

The following relations are also mentioned in the Talmud:

The diagonal is $\frac{7}{5}$ of the side of a square (although the Tosefoth commentary remarks that it is not quite exact, and gives a construction to prove that it is a little more than $\frac{7}{5}$).[1]

The circumference is given as equal to three times the diameter of a circle,[2] although Maimonides says that it is impossible to calculate this relation exactly. Tosefoth Yom Tov (second half of fifteenth century) gives this ratio the value of $3\frac{1}{7}$. The relations between the area of a square and its inscribed and circumscribed circle are $4:3$ and $3:2$ respectively.[3] Tosefoth also remarks that, although the diagonal of a square whose side is $1 = 1{\cdot}4$, the diagonal of a rectangle of sides 1 and 2 is a little less than 2·4[4]—*i.e.*, $\sqrt{5} < 2{\cdot}4$ (real value of $\sqrt{5} = 2{\cdot}23\ldots$). The square root of 5,000 is given as $(70\frac{2}{3})$[5] and the square root of 1,250 is given as 111 and a fraction)[6] (real value $= 11{\cdot}5\ldots$).[7] (See further Chapter XIX.)

A piece of ground 40×40 cubits has an area of 1,600 square cubits, but one of 20×20 has an area only of 400 square cubits.[8] It is narrated that one of the despotic Emperors of Rome once decreed that the Jews should bring him enough wheat to fill a space of 40×40 cubits. But one of the Hebrew sages advised them to ask the King to allow them to bring this in two instal-

[1] Erubin 57*a* and 76*b*.
[2] 2 Chron. iv. 2, Erubin 13*b*.
[3] Erubin 76*b*.
[4] Sabbath 85*b*.
[5] Rashi to Erubin 23*b*.
[6] See ingenious geometrical proof by Rashi to Erubin 23*b* on p. 318 below.
[7] *Ibid.*, 36*b*.
[8] Jer. Sotah.

ments, each time enough to fill an area of 20×20 cubits. They obtained that permission, and in this way gained 800 square cubits of wheat.[1]

The following treatises of the Talmud devote a good deal of space to the consideration of questions involving a knowledge of practical geometry: Erubin, Succah, Kilayim, and Mikwaoth.

Geography was also taught. Ezekiel, from his description of various countries, must have possessed a knowledge of that science,[2] and the British Museum has ancient Hebrew geographical tablets, including a map of the world.

Many statements about physical and mathematical geography are found in the Talmud and Midrash. The thickness of the earth is given as 254,980 miles (see p. 290). The North Pole is a region which it has never yet been possible for man to reach.[3] The earth is spherical.[4] When it is day here it is night in the antipodes, and there is a place where it is always day.[5] The Hebrew for earth is *eretz*, which is derived from the root *rutz*, meaning "to run," and is so called because she runs to do the will of God.[6]

Languages were also studied, and Greek was valued especially highly. "R. Jonathan of the house of Gobrin said: 'There are four languages which it is befitting that a man should make use of, and they are these: Greek for lyrics, Latin for war-songs, Persian for elegies, and Hebrew for ordinary conversation; and others say also Syriac for writing.'"[7] Dancing and music as well as

[1] Jer. Sotah.
[2] Ezek. xxi.-xxix.
[3] Chagiga and Yalkut Jeremiah 263.
[4] Jer. Ab. Zarah iii. 1.
[5] Zohar, Vayikra.
[6] Gen. R. 857.
[7] Jer. Megillah i. 8, Esth. R. iii.

other accomplishments must have been taught; we find that organizations for music and song existed in the time of the Bible.[1] David was also a man "cunning in playing the harp."[2]

It was also the duty of a father to teach his son some trade or handicraft; for he who does not teach his son a trade is as if he teaches him to be a robber.[3] He should, however, by preference teach him a clean and pleasant occupation. "There is no work," says the Talmud, "which is not necessary to the world; but happy is he whose parents have set him an example by choosing a worthy occupation. Thus, both the selling of perfumeries as well as tanning are necessary occupations, yet happy is he who is a perfumer, and woe to him who is a tanner."[4] On the other hand, in the choice of an occupation, it is advised not to select one which is likely to bring him too much into contact with women (*e.g.*, goldsmith, carver, weaver, barber, etc.). Swimming was also taught.[5]

Opinions differed as regards the education of girls. Ben Azai said that it was the duty of every man to teach his daughter the Torah; but R. Eliezer declared that he would rather have the Torah burned than have it imparted to women, and he who teaches his daughter the Torah is as if he taught her an abomination.[6]

There are several reasons given for withholding higher education from girls. One was that, as a result

[1] Ezra ii. 41, Neh. vii. 44. [2] 1 Sam. xvi. 18.

[3] Kiddushin 29*a*. A Talmudic saying (Sanhedrin 29*a*) is to the effect that

"Though lasting seven years no famine can
Approach the door of a skilled artisan"
("Gems from the Talmud," p. 87).

[4] Kiddushin 82*a*. [5] *Ibid.*, 29*a*. [6] Sotah 20*a*.

of the acquisition of knowledge, girls might become cunning and do things on the quiet which ought not to be done by them.[1] Another reason is that women are so light-headed that all serious study would be wasted on them.[2] Fame and greatness, says the Talmud, are not meant for women.[3] In spite of this, however, there were many very learned women amongst the ancient Jews; *e.g.*, the Talmud speaks of the five daughters of Zelophehad (who asserted female rights by saying: "Why should the name of our father be done away from among his family because he hath no son? Give unto us, therefore, a possession among the brethren of our father")[4] as sages, expounders, and righteous women.[5]

Again, B[e]ruria, the wife of R. Meir, was a very learned woman, and the Talmud mentions many legal points that were decided according to her conclusion.[6] A Rabbi mentions a legal decision in the name of his sister. Again, the daughter-in-law of Chanina had legal arguments with R. Gamliel, and mentions the authority of her mother-in-law.[7] There were also many learned Jewish women ("Lady Rabbinists") in the Middle Ages. (See I. Abrahams, *op. cit.*, p. 342.)

Girls were, however, given a thorough training in domestic accomplishments, such as spinning, weaving, embroidery, etc., so as to fit them for wifely duties.[8] The only accomplishment suitable for a girl, says the Talmud, is the spinning-rod.[9]

The acquirement of a foreign language (Greek) was also considered an ornament for a girl.[10] Dancing and

[1] Sotah 21*b*, Rashi. [2] Kiddushin 80*b*. [3] Megillah 13*b*.
[4] Num. xxvii. 4. [5] Baba Bathra 119*b*.
[6] Pess. 62*b*, Erubin 53*b*, and 54*a* and *c*. [7] Nidah 24*b*.
[8] Prov. xxxi. 10-31. [9] Yoma 66*b*. [10] Jer. Peah.

music were taught both boys and girls.[1] The value of travelling as an educational factor is spoken of by Ben Sira.[2] It was recommended that advanced students or students who find their studies too hard should visit various academies.[3] "Whoever," says the Talmud, "learns continually from but one instructor, and hears the interpretation of the Law from but one point of view, seldom attains a marked success in his studies."[4]

R. Simeon ben Yochai used to say metaphorically, "Drink all you can from the well which is in your town, and then go farther afield."[5] But although the above was the ordinary curriculum of an average child, it was enjoined that no great pressure be put upon a boy until he has attained his twelfth year.[6]

The teachers were concerned not only with methods of teaching, but also with **child study**. They knew that all children were not equal, and that the educational treatment applicable to one class of pupils was not necessarily that suitable for another class. Thus, pupils are classified into the following groups:

1. Those who quickly grasp the subject, but as quickly forget.
2. Those who understand with difficulty, but also forget with difficulty.
3. Those who quickly understand, but do not easily forget.
4. Those who understand with difficulty, but forget with ease.[7]

[1] Gen. iv. 20-22, Job xxi. 11, 12. [2] Ben Sira xxxiv. 19, etc.
[3] Taanith 8*a*, and Rashi *ad loc.*
[4] Aboda Zarah 19*a*. [5] Sifre Deut. 84*a*; *cf*. Ab. Zarah 19*a*.
[6] Keth. 50*a*, Rashi *ad loc.* [7] Abb. v. 15.

A similar classification is the following:

1. Those who, like a sponge, suck up everything they hear.

2. Those who, like a funnel, take in at one end and let out at the other.

3. Those who, like a strainer, let the wine pass and retain the lees.

4. Those who, like a sieve, separate the bran from the fine flour.[1]

Different methods of instruction would be required for each of those four groups of pupils.

An all-round education was encouraged, and specialization was not looked upon with favour. "He who studies philosophy, but not law," says the Talmud, "is like a strong man who is unarmed." "He who studies law without philosophy is like a man who has all the ammunition, but is too feeble to make use of them; but he who possesses a knowledge of both is like a man who is both strong and well armed.[2] Home lessons were set.[3]

Qualifications of a Teacher.

1. He must be of irreproachable character, because "only to the pure may the pure be entrusted," and his bearing must be modest and dignified.[4]

2. He must not be too young and inexperienced: for "he who learns from the young is like one who eats sour grapes and drinks new wine; but he who learns from older teachers is like one who eats ripe grapes and drinks old wine."[5] On the other hand, R. Meir said:

[1] Abb. 18. [2] Abb. d'R. Nathan xxix. [3] Kiddushin 30*a*.
[4] Yoma 68. [5] Abboth iv. 26.

"Do not look at the bottle, but at what is in it. A new bottle may contain old wine, whilst some old bottle may not even contain new wine."[1]

3. He must be patient and persevering, so that he can carefully listen to and explain the difficulties encountered by the pupils under his care.[2]

4. He must be a married man. This is explained on moral grounds, because the mothers used to accompany their children to school.[3]

5. Women were disqualified on moral grounds.[4]

6. The teacher must be a very sound scholar, for, as the Talmud says, "If thou wishest to hang thyself, select a lofty tree." This, as Rashi explains, means learn from a competent teacher.[5]

7. He must not receive any remuneration for his work, but is only to be paid for loss of time; for knowledge must not be used "as a crown wherewith to aggrandize thyself, nor as a spade wherewith to dig."[6]

It is narrated that Rabbi once came to a town where there was no rain. A man took his place at the prayer-desk, and when he uttered the words "He sendeth rain" rain immediately fell. When Rabbi asked him who he was, he replied: "I am a teacher of children, and instruct both rich and poor, taking a reward from neither."[7] A teacher was, however, exempted from taxation.[8] In the later part of the Talmudic period, however (second and third centuries), payment was made for instruction in reading, but not for religious instruction. Later still this law of free instruction was relaxed.

[1] Abboth iv. 26. [2] *Ibid.*, ii. 5; see also Erubin 54*b*.
[3] Kiddushin 82*a*. [4] *Ibid.*
[5] Pessachim 112*a*, and Rashi *ad loc.*
[6] Abboth iv. 7. [7] Taanith 24*a*. [8] Baba Bathra 8*b*.

8. A man who is very brilliant, but of a limited amount of knowledge, is not so suitable as one who is not so ingenious, but possesses a vast amount of knowledge. Thus, the Talmud relates that Rabba and Rabbi Jospah were selected as eligible candidates for the vacant post of principal to one of the colleges; but the final choice fell upon R. Jospah, who, though less original than Rabba, yet had much more extensive knowledge, since "bread is more necessary to sustain life than luxuries."[1]

9. He must be spotlessly clean. "A teacher who has a stain upon his clothes deserves death."[2]

10. A teacher must not dress either shabbily or like a dandy. These are unbecoming in him.[3]

11. He must be a perfectly frank man and absolutely above suspicion. One who says one thing and means another, or as the Talmud expresses it, "whose inside is not the same as his outside," is an abomination.[4]

Methods of Instruction.

As regards the method of teaching opinions differed. According to Rabba, the teacher ought to give his pupils more or less superficial instruction in a wide range of subjects; whilst R. Dimi held that the scope of instruction should be limited, but very thorough, for "mistakes, once having taken root in the pupil's mind, cannot easily be eradicated."[5] It was, however, agreed that elementary pupils should not be taught too many subjects at a time, nor any one subject too minutely; for "if you attempt to grasp too much at once you grasp nothing

[1] Berachoth 64*b*. [2] Sabbath 114*a*. [3] *Ibid.*, 43*b*.
[4] Yoma 72*b*. [5] Baba Bathra 21*a*.

at all.'"[1] One should instruct his pupils in the shortest manner possible,[2] and make short pauses during the lessons, so as to enable the pupils to absorb the instruction better.[3]

Before starting a lesson, Rabbi used to tell his pupils a few short stories and humorous anecdotes, so as to rivet their attention.[4]

The Midrash also mentions that once, when his pupils' attention was beginning to wane in the middle of a lesson, he suddenly called out that "in Egypt a certain woman once gave birth to 600,000 children at one time." This at once roused them, and when he was asked for the name of that prodigious woman he replied: "Jochebed; for she gave birth to Moses, who delivered 600,000 Israelites from slavery."[5]

R. Meir used to divide his lessons into three parts—viz., legal discussion, exposition, and the telling of fables with a moral.[6] It is further recommended to put more or less puzzling questions to one's pupils, in order to sharpen their intelligence.[7] The following is an instructive mathematical puzzle found in the Talmud: "Rav Papa and Rav Huna dined together. Whilst R. Huna ate one portion R. Papa ate four portions. Another time the same R. Huna dined with Rabina, and whilst the former had one portion the latter had eight portions. Then said R. Huna: 'I would rather dine with 100 R. Papas than with one Rabina.'"[8] In spite of the apparent exaggeration, Rav Huna's statement is mathematically perfectly correct. Each of the 100 R. Papas

[1] Kiddushin 17*a*.
[2] Pessachim 3*b*, Chulin 63*b*.
[3] Sifro i. 3.
[4] Pessachim 117*a*.
[5] Cant. R. i. 15.
[6] Sanhedrin 38*b*.
[7] Erubin 13*a*, Berachoth 33*b*.
[8] Erubin 54*b*, Pessachim 89*b*.

has four portions, and R. Huna has one, therefore altogether they have 401 portions between them, but there being 101 persons to pay (in equal shares), R. Huna has to pay for $\frac{401}{101}$ portions for the one portion he had. But dining with Rabina he has to pay for $\frac{9}{2}$ portions, although he only had one portion. But $\frac{9}{2}$ is greater than $\frac{401}{101}$. Q.E.D.

A method of juggling with figures quite worthy of the most modern statistician is given in an imaginary conversation between God and the Patriarchs. It is meant to illustrate God's great mercy. God said to Abraham: "Thy children have sinned"; and Abraham answered: "Lord of the Universe, destroy them in order that Thou mayest sanctify Thy name." God then addressed Himself with the same remark to Jacob, and obtained the same answer. Said God to Himself: "There is no wisdom in the old and no understanding in the young." God then repeated the complaint to Isaac, and Isaac answered: "Lord of the Universe, as long as they obeyed Thy commandments Thou didst call them *Thy* first-born, and now that they have sinned Thou dost call them *My* children. Nay, more: during what space of time could they have sinned? From the three score years and ten of man's life Thou must subtract the first twenty years, during which he is not responsible for his transgressions against Thy law. Out of the remaining fifty, half (*i.e.*, twenty-five) are spent in sleep; half of the remainder (*i.e.*, twelve and a half) are spent in prayers and attending to food and other calls of nature. There remain, therefore, only twelve and a half years during which they have sinned. If Thou dost wish to share responsibility with me for these few years, well and good; but if Thou desirest that

I alone shall be responsible for them, remember that I have already expiated their sins by offering myself as a sacrifice to Thee."[1]

The teacher must patiently explain everything until the pupil thoroughly understands it.[2] "If," said a Rabbi, "you see a pupil whose study is as hard to him as iron, the fault lies with his teacher; for he probably has not explained the matter sufficiently clearly."[3]

Great forbearance should be exercised with a slow pupil until the age of twelve years, but after that age, when his mental capacity is greater, he should be dealt with more severely.[4] The apparent contradiction between this remark and that of Rav to R. Samuel the son of Shiloth (p. 280) is explained as follows: To learn Scripture force is used at six; but for the Mishna force is not to be used until the child is twelve, for Abaye said: "My nurse instructed me that a boy should learn Scripture at six, Mishna at ten, and at thirteen he is to observe the usual acts in full." In any case, however, one should not be too severe with him. "Push him away with the left hand, and bring him nearer with the right."[5] If a pupil is rather dull, it is advised that he be put near a sharp one, so as to benefit from the latter.[6]

Corporal punishment may be administered to very stubborn and inattentive children,[7] but it must be very lightly done by means of a strap.[8] Without slight corporal punishment education cannot succeed, for he

[1] Sabbath 89*b*, and Rashi *ad loc.*
[2] Erubin 54*b*.
[3] Taanith 7*b* and 8*a*.
[4] Kethuboth 50*a*, and Rashi *ad loc.*
[5] Sotah 47*a*.
[6] Baba Bathra 21*a*.
[7] Kethuboth 50*a*, Rashi.
[8] Baba Bathra 21*a*.

who spares the rod hates his son.[1] No corporal punishment was, however, allowed for grown-up students. Further, only those pupils should be punished in whom the master sees that there are capacities for learning, but they are inattentive; but if they are dull and cannot learn they should not be punished.[2] Such pupils are recommended to persevere.[3]

According to some, if a pupil has studied for five years without much benefit, he will never derive much profit from his studies. According to others, the time limit is three years.[4] The teacher was not allowed to make any distinction between rich and poor scholars.[5]

Textbooks must be faultless,[6] and must be treated with the greatest respect. They must not be thrown about;[7] and even if they are written in such foreign languages as Coptic or Greek, one must desecrate the Sabbath in order to save them from destruction by fire.

Respect in which Teachers were held.

A teacher was likened to a bottle of scent, whose fragrance diffuses only when it is open, but when closed none can enjoy its beautiful aroma.[8]

A pupil must show every possible respect to his present or past teacher. He must stand up when his teacher approaches,[9] and must not, in order to avoid standing up, close his eyes or pretend that he does not see him.[10] If, however, the pupil is engaged in his daily

[1] Prov. xxii. 5.
[2] Succah 29*a*, commentary of R. Samuel Edels (Maharsha).
[3] Taanith 7, 8. [4] Chulin 24*a*. [5] Pessachim 112*a*.
[6] *Ibid.*, 24*a*. [7] Soferim iii. [8] Aboda Zarah 35*a*.
[9] Kiddushin 33*a*. [10] *Ibid.*, 32*a*.

occupation, he is not compelled to neglect his work in order to show this mark of respect.[1] When taking leave of his teacher, he must walk either sideways or backwards, but not with his back to the teacher.[2] A pupil must not sit in his teacher's chair, must not contradict or interrupt him,[3] and must not call him by name.[4] A teacher must take precedence over one's father in the respect and obedience which a child owes him.[5] A pupil who keeps silent when his master is cross with him is destined to become such a great man as to be able to distinguish between menstrual and other kinds of blood[6] (see Chapter XV., p. 241).

Mental Gymnastics.

Ancient Hebrew literature abounds in riddles which formed excellent mental exercises for school-children. The following are examples:

"Nine go away and eight come, two pour out and one drinks, and twenty-four serve." The answer is: "Nine months of pregnancy pass, and eight days before circumcision come; two breasts contain milk, out of which the infant sucks for twenty-four months."[7]

King Antoninus once said to R. Judah I. that the coffers of the Treasury were empty, and asked him what he was to do. The Rabbi took the King for a walk in the garden, uprooted the ripe vegetables, and planted others in their place. The King at once understood the hint conveyed by the Rabbi's action. He discharged his old Ministers and put new ones in their place.

[1] Kiddushin 33*a*.
[2] Yoma 53*a*.
[3] Num. R. xv.
[4] Sanhedrin 100*a*.
[5] Baba Metzia 43*a*.
[6] Berachoth 63*b*.
[7] See Chapter XII., p. 189.

Etymological Riddles.—How do the names of male and female children denote their special characteristics? Answer: "Male" in Hebrew=*zachar*. This can be split up into two words, *zeh-char*, which mean, "here is bread." In other words, every male born is a bread-winner. Again, "female" in Hebrew is *n'kebah*. This, again, can be split up into the words *n'kiah-baah*, which mean, "she comes clean or empty," indicating that she cannot earn her own living, and has therefore to be supported.[1]

Why is money called *zuzim*, or *mammon?* Answer: *zuzim* means "movable," to show that money changes hands. *Mammon* can be split up into the words *mah-moneh*, which mean, "why do you count it?"[2]

See also Sabbath 77*b*, for a number of other etymological riddles; also Chapter XXI., "Ball-playing," p. 360. Many other excellent riddles are those which the Queen of Sheba is said to have put to King Solomon. An example is given in Chapter XX., p. 352.

Aids to Memory.

"To acquire knowledge is as difficult as to acquire a vessel of pure gold, but to forget it is as easy as to break a vessel of glass" (Abb. d'R. Nathan xii.).

"It is as easy," said R. Ashi, "to forget what one has learned as it is to put a finger in the hole of a well."[3] Several aids to memory were therefore recommended:

1. Close attention to the teacher, and asking many relevant questions.[4]

2. Constant repetition aloud.[5] Bruria found a

[1] Nidah 31*b*. [2] Num. R. 22. [3] Erubin 53*a*.
[4] *Ibid.*, 10. [5] *Ibid.*

student who was studying his lessons silently. She rebuked him, and said: "It is written, 'ordered in *all* things, and preserved.'[1] If it is bound in all the 248 members of your body, it is yours; otherwise it vanishes."[2] To listen to a lesson and not to repeat it is like sowing without reaping, or like giving birth to a child and burying it immediately after.[3]

3. Discuss your studies with a friend; for "just as iron sharpens iron, so do two students sharpen each other." Rabbi Nachman the son of Isaac said the words of the Torah are likened to wood;[4] for just as a small splinter lights a big log of wood, so does an elementary student help the more advanced one.[5]

4. Cantillation, or the tuneful recitation of the part to be studied. R. Shepahatia said in the name of R. Jochanan that he who studies without musical intonation does not profit from his studies.[6] (*Note.*—The Hebrew Bible is now printed with a system of accents or musical notes called "tropes," and every Friday a portion is musically recited by every religious Jew individually, and every Saturday it is recited by the precentor publicly in synagogues.)[7]

5. The use of mnemonics as a means of fixing one's knowledge in the memory is strongly recommended. R. Chisda said: "The Torah cannot be retained except through signs or *memoriæ technicæ*."[8] It would be difficult to give here examples of the numerous mnemonics made use of in the Talmud, without assuming an

[1] 2 Sam. xxiii. 5. [2] Erubin 54*a*. [3] Sanhedrin 99*a*.
[4] Prov. iii. 18. [5] Taanith 7*a*. [6] Megillah 32*a*.
[7] See, further, article "Cantillation," by Rev. F. L. Cohen, in "Jewish Encyclopædia," vol. iii.
[8] Erubin 54*b*.

elementary knowledge of Hebrew on the part of the reader, since they are based in most cases on a similarity in the sound of words; but the following is probably the cleverest as well as the most comprehensive mnemonic mentioned. In it the whole verse, "A land of wheat and barley, vines, fig trees, and pomegranates; a land of oil olive and honey,"[1] is made to refer to prescribed quantities from the point of view of certain laws; *e.g.*, the word "barley" is a reminder of the fact that a piece of bone of a corpse the size of a grain of barley, when touched or carried, is enough to make a man unclean. The word "fig," again, represents the minimum size of an object which it is not allowed to carry on the Sabbath, etc.

A full list of forty-eight requisites for the acquisition and retention of knowledge is given in Abboth, the more important of which are the following: Close attention, repetition aloud, intelligent grasp of the subject, discussing the subject with a friend, asking of relevant questions, and humility.[2] The verse "Ho, every one that thirsteth, come ye to the waters"[3] is made use of in the Talmud to compare knowledge with water: just as water runs from a higher to a lower level, so does knowledge rest only with those that are humble in spirit.[4] "He who is proud because of his knowledge is like a carcase lying in the street. Every passer-by puts his hand to his nose and hurries away from it."[5]

Five things are mentioned as liable to weaken the memory—viz., to eat food that has been touched by a mouse, to eat the heart of a cow, to eat too many olives, to drink water that has been used for washing, and

[1] Deut. viii. 8. [2] Abboth 6. [3] Isa. lv. 1.
[4] Taanith 7*a*. [5] Abboth d'R. Nathan xi.

placing the feet one upon the other while bathing.[1] The following five things restore the memory again: Bread baked upon coals, soft-boiled eggs without salt, habitual use of olive-oil, mulled wine, and plenty of salt.[2]

Such, briefly, is an outline of the system of education as carried out by the Jews in ancient times. That the results were satisfactory is evidenced by the following probably exaggerated passage: "They searched from Dan to Beersheba, but found not an illiterate person."[3]

In the Middle Ages, too, the Jews had schools in every part of the world in which they lived, at a time when even the priests of the Church were illiterate. The Papal Legate Leo boasted at the Council of Reims that the Successors of Peter could well afford to be ignorant of Greek and Latin authors and philosophy, inasmuch as such ignorance did not prevent Peter himself from becoming the doorkeeper of heaven.[4] Although certain medieval Rabbis forbade playing chess, yet "children under fourteen were allowed to learn the game, on the ground that it rendered the intellect more acute."[5]

The Sepher Chasidim (Book of Pious) of the thirteenth century lays great stress upon moral and religious training as the ultimate aim of all education. The following are a few of the maxims worth quoting:

A wealthy father, whose children do not heed his moral and religious precepts, should see that they work

[1] Horyoth 13*b*. [2] *Ibid.* [3] Sanhedrin 94*b*.

[4] See article "Pedagogics" in "Jewish Encyclopædia," p. 573, col. 1.

[5] See article "Chess," *ibid.*, vol. iv., p. 19, col. 2.

for their living, whereby they might be brought back to the right path. In choosing an occupation for his son, regard should be paid to the boy's character; if the boy takes to his studies seriously, he may be allowed to dedicate himself to it, choosing the subjects for which he has most aptitude. Otherwise let him be taught some secular occupation. If a child stammers, he should, to avoid being mocked by his school-fellows, ask his questions in writing or after the other pupils have gone away.

Judah iba Tibbon, who lived in the twelfth century, left the following will to his son.[1] After stating that he has travelled to the ends of the earth to find teachers for him in science and other subjects, he exhorts him as follows: "Make thy books thy companion, and thy library thy garden. Pluck the fruit that grows therein: gather the roses, the spices, and the myrrh. If thy soul be satiate and weary, roam from one bed to another, and desire will renew itself."

The education of girls was, as in Talmudical times, neglected; and even when a girl was able to read the prayer-book, she did not understand it, and hence in about the fifteenth century religious and devotional books were written in jargon for their special benefit. In spite of this, however, there were a good many learned Jewish women in the Middle Ages.

As time went on, the general standard of education among Jews became lower and lower, until it reached its lowest ebb in the fifteenth century. It was at that time that the *cheder* came into vogue. The *cheder* at

[1] Quoted by Morris Joseph, article "Education (Jewish)" in Hastings' "Encyclopædia of Religion and Ethics," Edinburgh, vol. v., p. 197.

that time was a school owned by private teachers, who were only a little less ignorant than their pupils. In the eighteenth century, however, Moses Mendelssohn founded the Jewish Free School in Berlin (1778), and thus a new intellectual era began to dawn for the Jews of Germany and Europe generally; for as a result of this secular instruction went hand in hand with a sound Hebrew education. Simultaneously with Mendelssohn's efforts a similar movement was started in Austria.

The education of a modern Jewish Ghetto child is even now more religious than secular in character. As soon as the child is able to walk and talk, he is taken to the synagogue to listen to the prayers. At the same time he is initiated into light religious duties, such as the reciting of short morning and evening prayers, certain benedictions before and after food, joining in the responses at prayers in synagogue, the wearing of the *arba kanfoth* (or garment of fringes), the carrying of the *lulab* and *ethrog* to synagogue, etc.

At the age of five, or sometimes even less, he is sent to *cheder*, or Hebrew school, where, starting with the alphabet, he is gradually led up to a study of the Bible. When he has reached that stage, it is the universal custom to change the school for a higher one, where he is instructed in the more elementary portions of the Talmud and commentaries. In this class of school the boy remains till the age of thirteen, when he reaches his religious majority and becomes a *barmitzvah*, or a "son of the commandment," and is henceforth responsible for his own actions (see Chapter XV., p. 234). After that age he is either sent to a higher school in his own town, where he is instructed in the more difficult portions of the Talmud, Midrashim, Shulchan Aruch, etc., or is

sent to a special rabbinical academy called a *yeshibah*, where the same subjects are studied much more deeply. In the *yeshibah* he generally undergoes a good deal of hardship. He very often sleeps on the floor, and has to find his food by the generosity of the people of the town in which the *yeshibah* is situated. These provide the *yeshibah bachur*, or academy student, with free meals for one or more days in the week, and the student generally finds several hospitable families who between them give him food throughout the week. This is called *tag essen*, or "to-eat days." Moses Mendelssohn, who came to Berlin very poor, was boarded a couple of times a week by co-religionists.[1]

The manner in which the Talmud is studied is called the *pilpulistic* method. This consists in first of all reading the context of the portion of the Talmud studied, together with the older commentaries, such as Rashi, Tosefoth, Maharsha, Rosh, etc., and then, by hair-splitting dialectics and detailed analysis, creating and discussing either real or imaginary difficulties, and solving these difficulties by reference to, and comparison with, passages, sayings, and laws, in other portions of the Talmud and commentaries. This is a survival of the Babylonian dialectical method of discussing the Talmud. This method of hair-splitting dialectic, which was particularly developed in the Academy of Pumbeditha, was satirized by the proverb, "In Pumbeditha they know how to pass an elephant through a needle's eye"[2]—that is to say, so sharp is their acumen. It would at first seem as if such hair-splitting discussions are absolutely useless and an utter waste of time, and yet there

[1] See Grünwald, "Hygiene der Juden," xiii. (4).

[2] Baba Metzia 38*b*.

can be no doubt whatever of the wonderfully good effects that an earnest study of the casuistry of the Talmud has in sharpening the intelligence and developing the faculties of subtle and abstract calculation. According to recent English writers, it is this method of study, with its consequent mental development and training in the observation of detail, that "has contributed so largely to the competitive success and progress of the Jewish race."[1] And anybody who knows anything at all about this method of Talmudical disputation cannot help agreeing with the conclusion of those writers. Indeed, this method is quite as ingenious as, if not more so than, a clever problem in mathematics.

In the more western parts of Europe, or even among the less orthodox Jews in Eastern Europe, the education of the Jewish child does not differ much from that of its Christian confrère. In every country where religious denomination is no bar to education the Jewish children and youths frequent the schools and Universities of the countries in which they live. Not only so, but the number of Jewish students is, in practically all countries except Russia, quite out of proportion to the general Jewish population, as the following table shows:

	Proportion of Jewish Population.	*Proportion of Jewish Students.*
Prussia	1·14 per cent.	8·11 per cent.
Austria	About 5 ,,	About 25 ,,
Hungary	4·9 ,,	30·27 ,,

The following figures for Vienna are also instructive. In that city the proportion of the Jewish to the total

[1] Russell and Lewis, "The Jew in London," p. 28.

population in 1900 was 8·77, and yet the proportions of Jewish pupils in various schools were as follows:

Class of School.	*Total Number of Students.*	*Jewish Students.*	
		Number.	Percentage.
University	6,300	1,560	24·74
Technical High Schools ..	2,040	570	27·94
Gymnasia	5,900	1,800	30·50
Real Schools	5,200	1,200	23·07
Girls' High Schools ..	820	380	46·34
Commercial High Schools ..	680	280	41·17
Other commercial institutes	8,300	1,800	21·68
Industrial schools	2,400	1,100	4·58
Schools for deaf-mutes ..	395	97	24·83
,, blind	117	33	28·20
,, feeble-minded	160	39	24·37
,, neglected children	53	—	—
Kindergartens	6,300	1,000	15·87

For the United States of America the following figures have been published: In Columbia University (one of the largest American Universities), in 1912, out of 94 students who obtained the B.A. degree, 36 were Jews; and out of 58 B.Sc. graduates 25 were Jews. Out of 300 Bachelors of Pedagogics, 53 were Jews; out of 418 M.A. graduates there were 65 Jews. There were 22 Jewish Doctors of Philosophy out of a total of 74, and 31 Jewish Doctors of Medicine out of a total of 84; out of 114 Law graduates there were 40 Jews, and out of 26 Engineering students 9 were Jews. Altogether there were 281 Jews amongst a total of 1,168 graduates—*i.e.*, no less than 24·6 per cent.

In New York, where the Jews form 20 per cent. of the total population, there were in the colleges, in 1903, no less than 1,900 Jews out of 2,100 students—*i.e.*, 90·5 per cent.[1]

[1] Dr. A. Levinson in *Hashiloah*, Odessa, 1913, vol. xxviii., p. 369.

The only country in the world where Jewish students are proportionately few is Russia, where the primary State Schools in the Jewish Pale are far too few in number, and where the High Schools and Universities admit only a limited small number—viz., 3 per cent. to 10 per cent. of Jewish candidates.[1] In spite of this, however, there were, according to the returns of the census of 1897, proportionately twice as many literate Jews as literate Christians; for whilst the number of illiterate Christians at that time was over 80 per cent., that of illiterate Jews was only about 60 per cent. Moreover, whilst illiteracy in the case of the Russian Christians embraces both reading and writing, that of the Jews (especially the males) only applies to writing, as every male Jew is at least taught to read Hebrew.

[1] It is safe to predict that under the new democratic régime the number of Jewish students in Russian Universities will soon rise rapidly.

CHAPTER XIX

SOME OF THE MATHEMATICAL PROBLEMS OF THE TALMUD,

BEING AN APPENDIX TO CHAPTER XVIII

"Bar Kapara is reported to have said that he who knows mathematics and astronomy, and does not make use of his knowledge, to him applies the verse in Isaiah (v. 12), 'They regard not the work of the Lord, neither consider the operation of His hands'" (Sabbath 75*a*).

In the last chapter I enumerated a few mathematical coefficients and relations mentioned in the Talmud. In this chapter I propose to show how some of these numbers have been arrived at, as well as to investigate certain problems in the Talmud which require some mathematical analysis for their elucidation.

For much of the subject-matter of this chapter I am indebted to Edward Mahler, "Zur Talmudischen Mathematik," in *Zeitschr. f. Mathematik*, 1884 and 1886; and to "Das Mathematische im Talmud," by Dr. B. Zuckermann, Breslau, 1878.

Surds.

$\sqrt{2}$.—We have already seen that the diagonal of a square was given as equal to $\frac{7}{5}$ of the side.

The Tosefoth Commentary remarks[1] that the diagonal of a square is a little more than $\frac{7}{5}$ of the side—*i.e.*, $\sqrt{2} > 1{\cdot}4$—and proves it in the following simple manner:

Let side of square ABCD=10 units; then area of square ABCD=100 square units. Bisect the sides at GFHE, and join

[1] Erubin 57*a*.

GH, EF (intersecting at K) and EG, GF, FH, HE. Then, since AG and AE are each 5 units, therefore if the ratio required=1·4, then EG=5 × 1·4=7 units.

$\therefore$ square EGFH=49 square units.

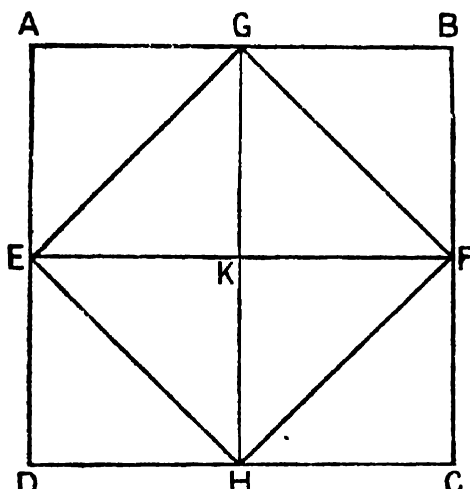


FIG. 4.—EVALUATION OF $\sqrt{2}$.

But EGFH, being equal to half the area of ABCD=50 square units.

$\therefore$ EG, GF, etc., are each a little greater than 7.

$\therefore$ ratio between hypotenuse and side$>$1·4.

I.e., $\sqrt{2}>1{\cdot}4$ (real value=1·41 . . .).

Compare also Erubin 51*a*, 60*b*, 78*a*, Succah 8*a*, Sabbath 85*a*, Baba Bathra 102*a*, Oholoth xii., Kilayim v.

A very close approximation to the true value of the $\sqrt{2}$ can be found indirectly from the statement[1] that the length of the side of a square whose area is 5,000 square cubits is a little more than $70\frac{2}{3}$—*i.e.*, $\sqrt{5000}>70\frac{2}{3}$, or $50\sqrt{2}=\frac{212}{3}$.

$$\therefore\ \sqrt{2}=\frac{212}{150}=\frac{106}{75}=1\frac{31}{75}=1{\cdot}4133\ .\ .\ .$$

N.B.—$1\frac{31}{75}$ is one of the Archimedean approximations of $\sqrt{2}$.

$\sqrt{5}$.—Tosefoth remarks[2] that, although the diagonal of a square 1 × 1=1·4, the diagonal of a rectangle 1 × 2 is a little less than 2·4—*i.e.*, $\sqrt{5}<2{\cdot}4$ (real value=2·23 . . .).

Further, the Mishna[3] observes that $\sqrt{12500}=111$ and a fraction.

$$I.e.,\ 50\sqrt{5}>111.$$
$$\therefore\ \sqrt{5}>2{\cdot}22.$$

[1] Erubin 23*b*. [2] Sabbath 85*b*. [3] Erubin 36*b*.

Tosefoth Yom Tov (R. Lipman Heller, who lived in the second half of the fifteenth century) says that $\sqrt{12500}<112$ because $112^2=12544$. $\therefore 50\sqrt{5}<122$. $\therefore \sqrt{5}<2{\cdot}24$. Hence, $\sqrt{5}>2{\cdot}22$ and $<2{\cdot}24$ (real value$=2{\cdot}23$).

$\sqrt{5000}$.—The following method given in the Palestinian Talmud,[1] of proving that $\sqrt{5000}=70\frac{2}{3}$, is very instructive, as it makes use of geometrical figures for the purpose of arithmetical calculations: "R. Samuel bar Nachman said in the name of R.

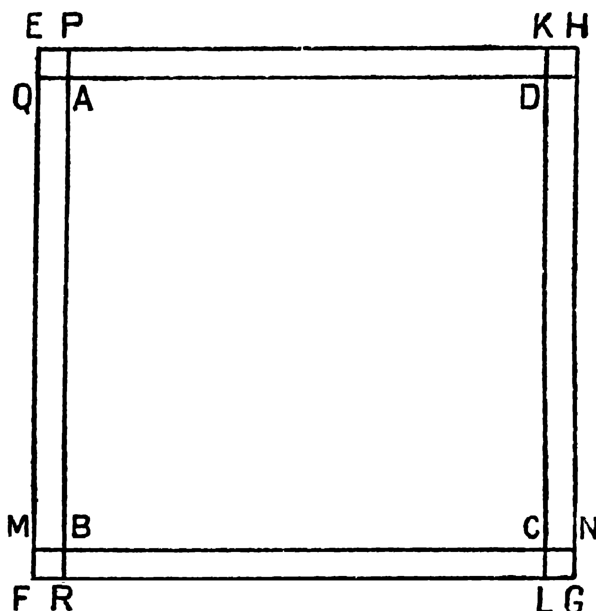


Fig. 5.—Evaluation of $\sqrt{5000}$ (Talmudic Method).

Jonathan that the side of a square whose area equals that of a court 100×50 square cubits is more than $70\frac{2}{3}$, since a square of sides $70\frac{2}{3}=70\times 70$ (which$=4{,}900=5{,}000-100$) $+\,70\times\frac{2}{3}+70\times\frac{2}{3}$ (which$=\frac{140}{3}+\frac{140}{3}=\frac{280}{3}$) $-\,4$ squares of $\frac{1}{9}$ ($=\frac{4}{9}$) in each corner of the figure, and there is still lacking $\frac{10}{3}$ less $\frac{1}{9}$."

If we look at Fig. 5, where ABCD is a square whose sides are 70×70, and EFGH a square $70\frac{2}{3}\times 70\frac{2}{3}$, we see that EFGH=

[1] Jer. Erubin.

ABCD + four rectangles, AK, BL, AM, DN, and the four corner squares AE, BF, CG, DH.

I.e., $\text{EFGH} = 70 \times 70 - 4 \times 70 \times \frac{1}{3} - \frac{4}{9}$

$= 4{,}900 - \frac{280}{3} - \frac{4}{9}$

$= 4{,}900 - 93\frac{1}{3} - \frac{4}{9} = 4{,}993\frac{7}{9}$ square cubits.

The difference between this value and $5{,}000 = 6\frac{2}{9} = \frac{56}{9}$.

$$= \frac{57-1}{9} = \frac{57}{9} - \frac{1}{9} = \frac{19}{3} - \frac{1}{9}. \quad \text{Q.E.D.}$$

Rashi to Erubin 23*b* gives the following ingenious construction to prove the same thing (*i.e.*, that $\sqrt{5000} > 70\frac{2}{3}$).

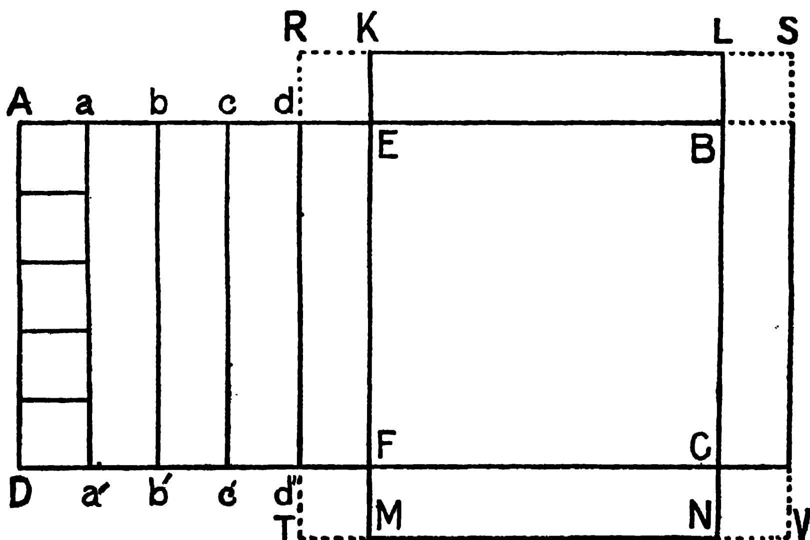


FIG. 6.—EVALUATION OF $\sqrt{5000}$ (RASHI'S METHOD).

He says: "Let ABCD be a rectangle whose sides are 100 and 50 cubits respectively.

"By joining the middle points EF of the sides AB, DC, we get two squares 50 × 50 cubits. Divide AE, DF, into five equal parts A*a*, *ab*, etc., D*a′*, *a′b′*, etc.; then we get five rectangles of 50 × 50 cubits.

"Attach one of these rectangles to each side of the square EFCB, and you get a figure whose area is less than $(70)^2$ by four

times the area of each of the dotted corner squares; *i.e.*, the area of the figures thus obtained=square RSVT less the four dotted squares=$(70)^2-4\times 10$.

"By further dividing the remaining rectangle A*a*, *a'*D, into five squares of 10×10, and adding one to each of the four dotted corners of the figure, so as to complete the square RSVT, we get a complete square 70×70.

"$\therefore$ the area 100×50 is greater than 70^2 by one of the squares 10×10."

By further dividing the remaining square of 10×10 into thirty rectangular strips of sides 10 and $\frac{10}{30}$ respectively, and forming out of those strips one long rectangular strip of $300\times\frac{10}{30}$, and then attaching a portion of that rectangle, of length 70, to each of the sides of the square RSVT, a new figure will be formed whose area will be less than $(70)^2$ by four times the square of $\frac{1}{3}$. These four corner squares can again be filled in from the remaining portion of the rectangle. We are then left with a strip whose sides are $\frac{1}{3}$ and $18\frac{2}{3}$ respectively. This process can be continued longer, but if we stop here we come to the following conclusion, that area of a rectangle 100×50 is a little more than that of a square $70\frac{2}{3}\times 70\frac{2}{3}$—*i.e.*, $\sqrt{5000}>70{\cdot}66$, and that its value cannot be calculated exactly.

It is, however, most remarkable that, although Rashi displayed great genius in mathematical calculation, he was quite ignorant of the most elementary mathematical facts. He was not aware that the sum of two sides of a triangle are greater than the third, for he says:[1] "If a ladder is to be placed 4 spans from the foot of a wall 10 spans high so as to reach its top, then the ladder must be 14 spans high (*i.e.*, the sum of the two lengths)," which, of course, is absurdly incorrect. The real minimum length of the ladder must be only $\sqrt{4^2+10^2}=\sqrt{116}=10{\cdot}7$ spans.

Tosefoth *in loco* points out Rashi's error. Rashi also makes the diagonal of a rectangle 4×6 (*i.e.*, $\sqrt{52}$) equal to the diagonal of a square 5×5 ($=\sqrt{50}$), and gives a fallacious demonstration in proof of his statement.[2]

[1] Erubin 78*a*.

[2] Baba Bathra 102*a*.

Rashi is further wrong in his statement to Erubin 76*a*, that it is impossible to inscribe a square 4×4 in a circle whose circumference is less than 24, and he gives a lengthy explanation of his statement which is altogether erroneous. Tosefoth sees Rashi's gross mistakes, and in pointing out the errors makes several mathematical blunders itself. Into these it is impossible to enter here.

Relationship between Squares and Circles.

The area of a square described inside a circle is half the area of the square described outside the circle.[1]

This is obvious from Fig. 7, if we take $\pi=3$. (See p. 292.)

$$\begin{aligned} \text{For area of circle} &= \pi r^2 \\ &= 3r^2, \\ \text{and area of ABCD} &= 4r^2, \\ \text{and area of EFGH} &= 2r^2, \\ \therefore\ \text{EFGH} &= \tfrac{1}{2}\text{ABCD}. \end{aligned}$$

At the same time we see from the figure that the area of a square is $\frac{4}{3}$ the area of its inscribed circle, and $\frac{2}{3}$ the area of its circumscribed circle.

(By exact mathematics we must take $\pi=3\cdot14159$ . . ., and $\therefore$ area of square$=\frac{4}{3\cdot14159}$ area of inscribed circle, etc.)

The relation between the circumference of a circle and the periphery of the circumscribed square is as 3 : 4.[2]

This is obvious from the figure if we take $\pi=3$, for circumference=3 diameters, and periphery of square=4 diameters.

The measure of the error depends on the exact value of π.

A less exact value of $\sqrt{2}$ can be calculated from a chronologically earlier Mishna,[3] which—speaking in connection with Num. xix. 14, according to which every one that comes into a tent where there is a dead body or portion of a dead body becomes

[1] Erubin 76*b* and Succah 8*b*.

[2] Oholoth xii. 6. [3] *Ibid.*, xii. 7.

unclean; and referring to Mishna iii. 7 (Oholoth), where it is stated that a space 1 × 1 × 1 handbreadth constitutes a tent for the purpose—says that a column of cylindrical shape lying on

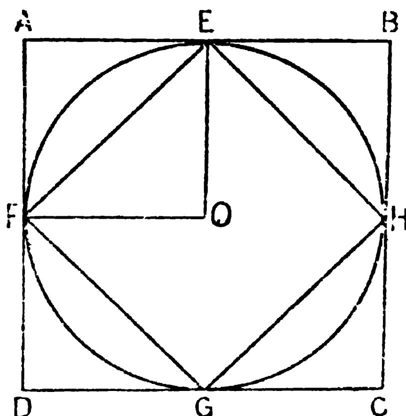


Fig. 7.—Relation between Squares and Circles.

the ground in an open field, and having a circumference of 24 handbreadths, fulfils the condition of a tent if a portion of dead body lies immediately under it.

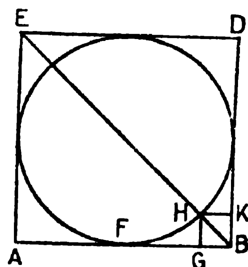


Fig. 8.—Another Method of Finding $\sqrt{2}$.

Now, in Fig. 8, if circumference=24, then, in order to fulfil the condition of the Mishna, the square HKBG must be 1 × 1; but, according to a Talmudical statement,[1]

[1] Oholoth xii. 6.

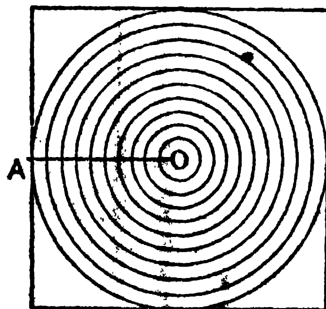
$$\text{Diameter} = \tfrac{1}{3} \text{ of circumference.}$$
$$\therefore AB = 8, \text{ and } EB = 8 + 2HB.$$
$$\text{But } EB^2 = 2AB^2 = 2 \times 8^2.$$
$$\therefore (8 + 2HB)^2 = 2 \times 8^2.$$
$$\therefore 8 + 2HB = 8\sqrt{2}.$$
$$\therefore HB = 4(\sqrt{2} - 1).$$
$$\text{But } HB^2 = 1^2 + 1^2 = 2.$$
$$\therefore \sqrt{2} = 4(\sqrt{2} - 1).$$
$$\therefore 3\sqrt{2} = 4.$$
$$\therefore \sqrt{2} = \tfrac{4}{3} = 1{\cdot}33 \ldots$$

The commentators, taking $\sqrt{2} = 1{\cdot}4$, are compelled to deduce that the Mishna's calculation was wrong, since with that value we get the following result:

$$HB = \sqrt{2} = 1\tfrac{2}{5}.$$
$$\therefore BE = 8 + 2HB = 10\tfrac{4}{5}.$$
$$\text{But } BE = 8\sqrt{2} = 8 \times 1{\cdot}4 = 11{\cdot}2.$$
$$\therefore \text{Mishna's calculation is wrong.}$$

But the fact is that the Mishna did not calculate wrongly, but took a smaller value of $\sqrt{2}$—viz., 1·33. . . . Historically it is of interest to note that Oholoth belongs to the older portion of the Mishna. The later Mishnas in Erubin were acquainted with the more exact value 1·4133, although for practical purposes they were satisfied with the value $1\frac{2}{5}$.

Tosefoth[1] proves the Talmudic saying, that the area of a square is one-fourth of itself greater than its inscribed circle, as follows:



B O

Fig. 9. **Fig. 10.**

[1] Erubin 56*b*.

Imagine a series of concentric rings, the largest of which has a radius of $\frac{1}{2}$, inside a square 1×1. Cut these rings in the direction AO (Fig. 9), and straighten these rings out as in Fig. 10. You will then get a triangle whose base is the length of the circumference of the biggest circle $= 2\pi\frac{1}{2} = 3$ (π being taken as 3), and whose height = radius of circle $= \frac{1}{2}$.

Divide the triangle in the direction of its perpendicular, OB, and place the two halves side by side to form a rectangle, as shown in Fig. 11. We then get a rectangle whose sides are $\frac{1}{2}$ and $1\frac{1}{2}$ respectively—*i.e.*, its area = three times that of a square whose sides are $\frac{1}{2} \times \frac{1}{2}$. But a square 1×1 contains four squares of $\frac{1}{2} \times \frac{1}{2}$. $\therefore$ area of square : area of inscribed circle : : 4 : 3.



FIG. 11.

Determination of Heights and Depths.

I have already mentioned that an instrument resembling a theodolite, by means of which one could see a distance of 2,000 cubits, is mentioned in the Talmud. The following is a description of the method of using it:

"*To find the depth of a valley*, one should bring a tube and look through it on dry land, and he will find the depth of the valley." This is very obscure, but Rashi explains it as follows: "The observer should first focus or adjust the apparatus. Let him then go to the edge of the valley and look down into its deepest part. Let him walk back until he comes to a place from which he can just see the bottom of the valley (that is to say, if he were to walk a little farther back he would no more see it). He will then know that the depth of the valley and his own distance from the edge of the valley are as the distance of vision of the tube."

Maimonides says that this passage can only be understood by those who know all about angles and proportions. Although

Rashi's meaning is somewhat obscure, the calculation can be made from his directions as follows:

Let h be the height of the man AB (up to his eyes), H the depth of the valley FG, AC the known distance of the second position of the man from the edge of the valley. Then $CE=CD \tan \alpha = h \tan \alpha$.

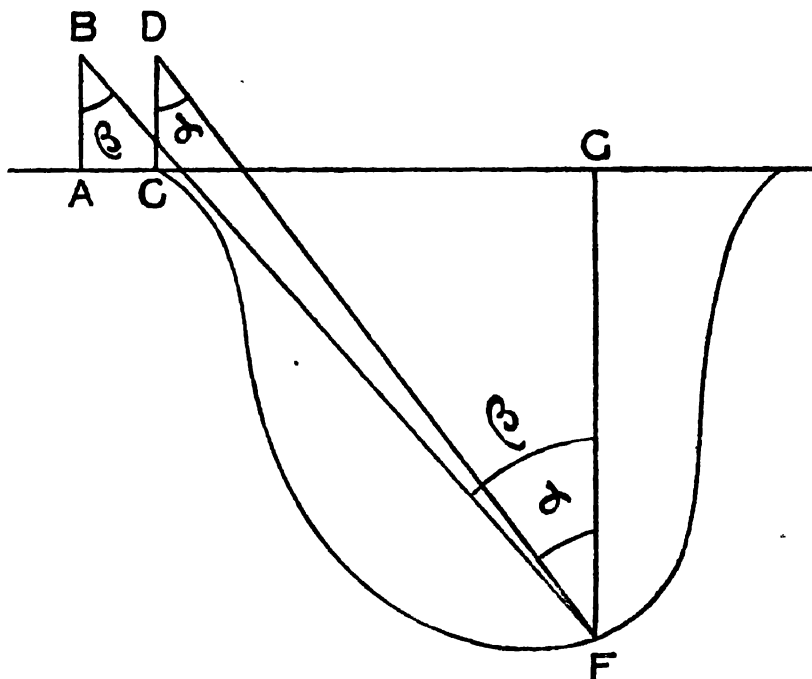


FIG. 12.—TALMUDIC TRIGONOMETRIC METHOD OF DETERMINATION OF DEPTH OF A VALLEY.

$$CG=FG \tan \beta=H \tan \beta,$$

and $EG=CG-CE=H \tan \beta - h \tan \alpha$.

But $EG=H \tan \alpha$.

$\therefore H \tan \alpha = H \tan \beta - h \tan \alpha$.

$\therefore H (\tan \beta - \tan \alpha) = h \tan \alpha$.

$$H=\frac{h \tan}{\tan \beta - \tan \alpha}.$$

To find the height of a tree, **it is necessary to measure one's own height, the length of one's own shadow, and the length of the tree's shadow.**[1]

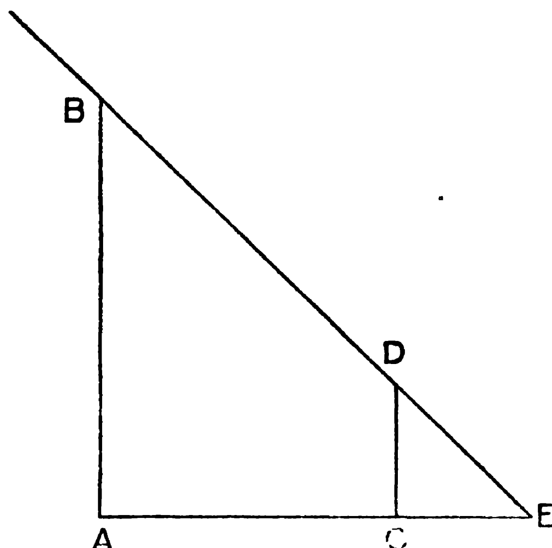


FIG. 13.—DETERMINATION OF HEIGHT OF A TREE.

From Fig. 13 it is obvious that, if AB is the tree, AE its shadow, CD the man, and CE his shadow,

$$\frac{CD}{AB}=\frac{CE}{AE}.$$

$$\therefore AB=\frac{CD, AE}{CE}.$$

Kilayim, or the Mingling of Seeds.

(*Agricultural Problems.*)

The Bible[2] forbids the sowing of a field with mingled seeds. The Mishna discusses certain rules whereby it is possible to evade the Mosaic prohibition. The Mishna (Kilayim iii. 1) gives the following rules:

(*a*) A square piece of land 6 × 6 handbreadths may be sown with five kinds of seeds—viz., one on each of the sides and one

[1] Erubin 43*b*. [2] Lev. xix. 19.

in the middle. (*b*) If the piece of land is fenced round with a fence 1 handbreadth high and 1 handbreadth deep, then may thirteen kinds of seeds be sown—viz., three on each of the sides of the fence and one in the middle. R. Jehuda allows six in the middle (*cf.* Sabbath 84*b et seq.*). The Mishna does not state the exact positions or shapes of each of the furrows. It is, however, assumed that the furrows must not touch each other at more than one point, in order not to constitute mingling in the Biblical sense.

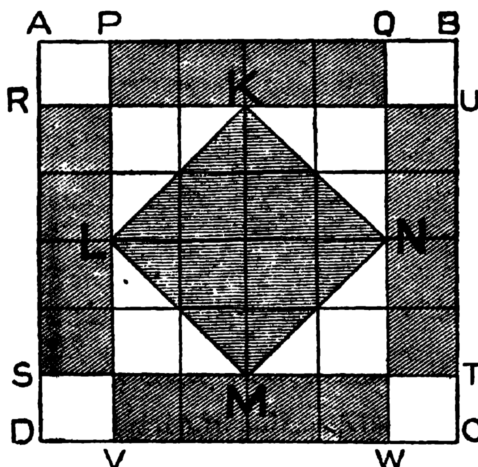


FIG. 14.—PROBLEM ON MAXIMA AND MINIMA (CASE I.).
Shaded parts = sown areas.

The solution is as follows:

First Case (*a*).—Let PQ=RS=UT=VW=x handbreadths (*i.e.*, length of each external sown area), and AP=QB=TC, etc. =y handbreadths (*i.e.*, lengths of unsown areas). Hence area of each sown furrow=xy, and all sown furrows=$4xy$.

$$\text{The middle sown area} = \frac{x^2}{2}.$$

$$\therefore \text{ whole area sown} = 4xy + \frac{x}{2}$$

$$\text{But } AB=6; \therefore\ x+2y=6; \therefore\ y=\frac{6-x}{2}.$$

$$\therefore\ 4xy+\frac{x^2}{2}=4x\,\frac{(6-x)}{2}+\frac{x^2}{2}.$$

Let this $=a$ (whole sown area).

$$\therefore\ 4x\frac{(6-x)}{2}+\frac{x^2}{2}=a;$$

$$i.e.,\ 24x-4x^2+x^2=2a.$$

$$\therefore\ 3x^2-24x+2a=0.$$

$$\therefore\ x=8\pm\sqrt{\frac{\frac{-8a+64}{3}}{2}}.$$

$$=4\pm\sqrt{16-\frac{2a}{3}}.$$

But a = positive, and x is real.

$\therefore\ \frac{2a}{3}$ must be < 16; $\therefore\ a < 24$.

Hence largest sown area $=24$, and with this value of a, $x=4$.

$$\therefore\ y=\frac{6-x}{2}=1.$$

Or by the differential calculus thus:

$$24x-3x^2=2a.$$

$$\therefore\ a=12x-\frac{3x^2}{2}.$$

For a to be a maximum we must have:

$$\frac{da}{dx}=0;$$

$$i.e.,\ 12-3x=0.$$

$$\therefore\ x=4.$$

Hence whole area of piece of ground $=36$, and sown area $=24$—*i.e.*, $\frac{2}{3}$ of the whole plot. This is the value given by Maimonides without his stating the manner in which it was calculated.

See also special commentary of R. Obadya of Bertinaro (died 1510) on same Mishna.

Second Case (*b*).—Let ABCD $=6\times6$, EFGH being the surrounding raised fence. On this fence are twelve different

furrows of 1 square handbreadth each—viz., three on each side at fixed distances from one another, and one on the plot itself, the latter covering 18 square handbreadths.

$\therefore$ total area of sown parts=30 square handbreadths (see Fig. 15).

$=\frac{15}{32}$ of whole (since whole=64 square handbreadths).

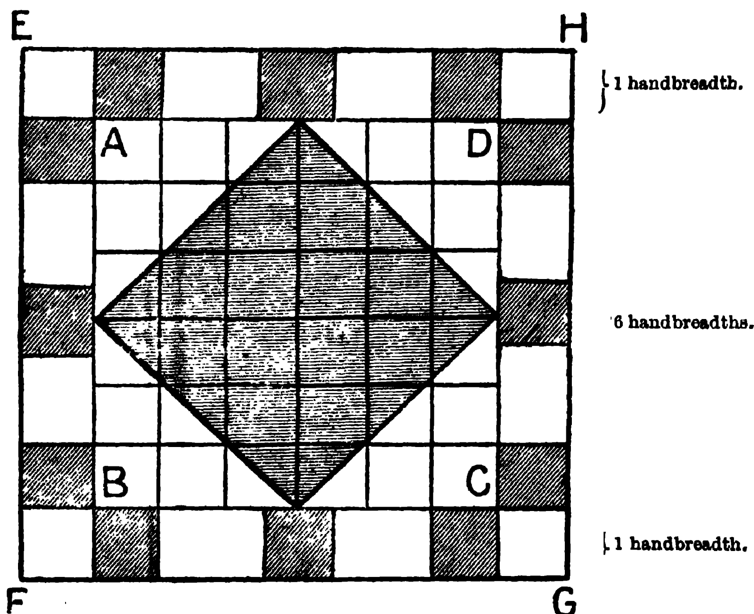


FIG. 15.—PROBLEM ON MAXIMA AND MINIMA (CASE II.).

In order to satisfy R. Jehuda's statement, imagine Fig. 16, where each of the four kinds of seeds in the middle of the plot covers a rhombus whose area obviously=3 square handbreadths (since it is inscribed in a rectangle of area 2×3).

$\therefore$ The whole covered area $=30$ square handbreadths. The problem then arises, Is the distance between each two parallel rhombi the *required* minimum distance of $1\frac{1}{2}$ handbreadths ?

The Rambam (Maimonides), who gives the above construction, erroneously takes GD (Fig. 17) as the required distance which$=\sqrt{DK^2+KG^2}=\sqrt{(1\frac{1}{2})^2+1^2}=\sqrt{\frac{9}{4}+1}=\frac{1}{2}\sqrt{13}=1\frac{4}{5}$.

The real distance, however, obviously is GL (where GL is perpendicular to FD), and GL=GD sin GDF.

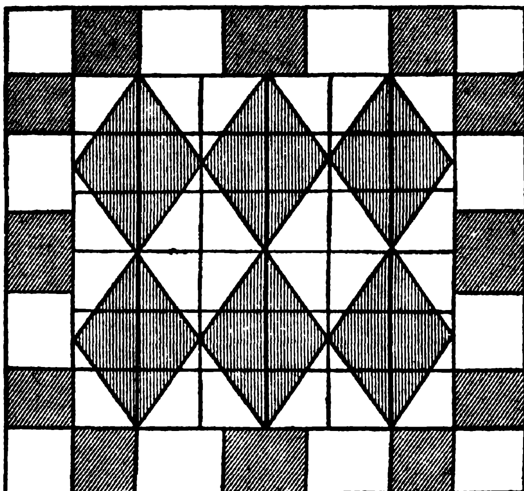


FIG. 16.

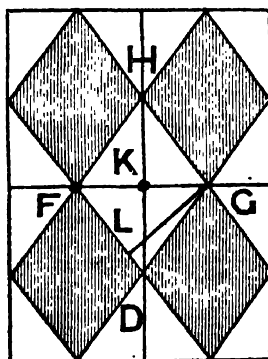


FIG. 17.

It is easy to find the value of the angle GDF.

For $\angle$GDF=2$\angle$KDG.

But tan KDG$=\frac{1}{1\frac{1}{2}}=\frac{2}{3}$.

$\therefore$ KDG$=\tan^{-1}\frac{2}{3}$.

$\therefore$ $\angle$GDF$=2\tan^{-1}\frac{2}{3}=67^\circ\ 22'\ 48''$

$\therefore$ GL, which=GD sin GDF,

$=\frac{1}{2}\sqrt{13}\sin 67^\circ\ 22'\ 48''=1{\cdot}6641$.

This is still greater than the minimum $1\frac{1}{2}$, and therefore, although Maimonides was slightly wrong in his calculation, yet the arrangement of the plants as given in his figure is quite correct.

Basing itself on Deut. xxii. 9, the Mishna[1] makes the statement that, if a green vegetable is planted in a vineyard wherein the vines are 4 or 5 cubits distant from one another, then 45 vines become holy through it as a result of *kilayim* (*i.e.*, mingled seeds).

Maimonides deduces from this the following corollary: If a vegetable is planted in the centre of a vineyard consisting of

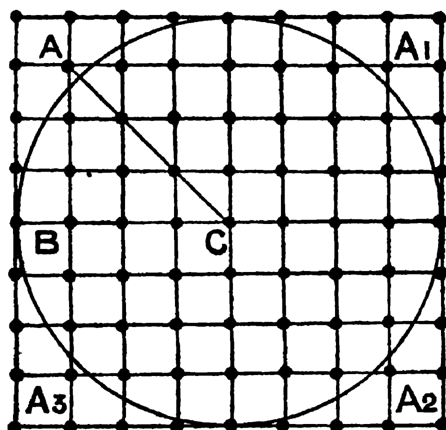


FIG. 18.

nine equidistant rows, the distance between the rows being 4 cubits from one another, each row containing nine vines at a distance of 4 cubits from one another, then a circular area having the plant as centre and a radius of 16 cubits becomes holy through *kilayim*.

Tosefoth Yom Tov proves this as follows:

In the diagram (Fig. 18), CB=BA=12 cubits.

$\therefore AC^2 = 2 \times 144 = 288.$

$\therefore AC = \sqrt{288}$—*i.e.*, just less than 17.

[1] Kilayim v. 5.

Hence the circle with C as centre and radius=16 cubits—*i.e.*, the inscribed circle—will just miss the four vines A, A1, A2, A3, and will also exclude thirty-two other vines on the tangent of the circle, leaving only 81 − 36=45—*i.e.*, the number specified in the Mishna. Q.E.D.

There are numerous other questions discussed in the Talmud requiring for their proper understanding a good knowledge of mathematics. It would occupy too much space to consider them here. Those that are interested in the subject will derive much benefit from a perusal of Dr. Zuckermann's monograph referred to above.

The Mishnath Hammidoth (eleventh century), discovered and edited by Dr. M. Steinschneider, gives the following correct formulæ for finding the areas and volumes of certain geometrical figures:

Area of rectangle=product of sides.

Area of triangle=$\frac{1}{2}$ product of base and height.

Area of circle =$\frac{11}{14}$ square of diagonal.

(*E.g.*, if diagonal=7, the area of circle=$\frac{11}{14} \times 49 = 38\frac{1}{2}$. If we calculate the area from the formula πr^2 (where $\pi = 3{\cdot}14$), we get area=$3{\cdot}14 \times \frac{49}{4} = 38{\cdot}48$.)

Area of segment of a circle=$(s+h)\,\frac{h}{2} + \frac{(\frac{s}{2})^2}{14}$, where s=chord, h=height of arc. Heron of Alexandria gives the same formula.

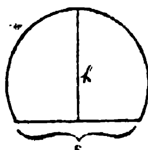


Fig. 19.

Volume of a cube or parallelopiped=length × breadth × height.

Volume of cylinder or prism=area of base × height.

Volume of cone=$\frac{1}{3}$ area of base × height.

CHAPTER XX

MORAL EDUCATION

" R. Chanina the son of Dosa used to say: ' He in whom the spirit of his fellow-creatures takes delight, in him the Spirit of the All-present takes delight; and he in whom the spirit of his fellow-creatures takes not delight, in him the Spirit of the All-present takes not delight ' " (Abboth iii. 10).

CERTAIN books of the Bible (like Proverbs) and of the Talmud (like The Ethics of the Fathers, Abboth d'R. Nathan, Derech Eretz R. and Zuta, etc.) concern themselves entirely with moral and ethical codes. In addition, many tales and maxims intended to enforce some moral precepts are scattered about in Jewish literature. In this chapter I have selected a few of the more interesting ones for illustration.

" Every good man," says the Talmud, " no matter what his creed may be, is sure of heaven."[1] The same idea has been expressed by Pope[2] in the following lines:

" For modes of faith let graceless zealots fight;
His can't be wrong whose life is in the right."

The Tongue as an Instrument of Good and Evil.

The saying that " Death and life are in the power of the tongue "[3] is illustrated by the following beautiful fable from the Midrash:

[1] Sanhedrin 105*a*.
[2] " Essay on Man," iii. 305.
[3] Prov. xviii. 21.

A certain Persian King was desperately ill, and the physicians declared that the only remedy to save his life was the milk of the lioness. One of his more adventurous servants offered to procure this. He took some sheep with him, with which he lured a lioness and succeeded in obtaining her milk. Weary and exhausted, he fell into a sound sleep, during which he dreamed that the various members of his body were discussing their relative contributions to the success of his undertaking. "There can be no doubt," said the feet, "that the credit belongs to us; for were it not for us this venture would not have been undertaken." "Not so," said the hands; "were it not for the fact that we enabled our owner to milk the lioness, your services would have been utterly useless." "Without the sight which we supplied," exclaimed the eyes, "neither of you would have been of much use." Then said the heart, "Were it not for my initiative, the journey would not have been thought of."

At last the tongue, without any further explanation, claimed all the success for itself, and was greatly scorned for its presumption by the other contending members. The man awoke and continued his journey. When he came before the King, he was so overjoyed and excited with his success that by a slip of the tongue he said: "Your Majesty, I have brought you the dog's milk." The King was so furious at this insulting remark that he ordered the man to be put to death. On the way to execution all the members of the body—heart, eyes, feet, and hands—trembled and were terribly afraid. "Did I not tell you," said the tongue, "that my power was greater than the united powers of all of you?" When all the members then agreed that it was so, the

tongue requested and obtained permission to appear and plead before the King. It explained its unfortunate slip and eloquently begged for mercy. The milk was tested and found to be genuine milk of a lioness, and the man was suitably rewarded.[1]

R. Simeon ben Gamliel once bade his servant bring him something good from the market. He brought a tongue. He then asked him to bring something bad, and he again brought him a tongue. "If good, there is nothing better; if bad, there is nothing worse."[2]

By the following seven characteristics is a wise man distinguished from a fool: A wise man (*a*) does not talk before his superiors in wisdom and years; (*b*) does not interrupt another when speaking; (*c*) is not hasty to make reply; (*d*) his questions are to the point, and his answers are relevant; (*e*) is methodical in his discourses; (*f*) is not ashamed to own that he does not know; (*g*) confesses the truth. R. Cheya said silence is becoming to the wise, and much more so to the foolish; and Solomon also said that even if a fool is silent he is considered wise.[3]

How remarkably, says the Talmud, has the tongue been guarded! It is recumbent when all the members of the body are erect. It is placed within, all the other members being without; and not only so, for it is restrained within its natural bounds; it has two walls —one of bone (the teeth), the other of flesh (the lips).[4]

The tongue is several times compared in the Bible to an arrow,[5] because, says the Talmud, it is the most

[1] Yalkut Shimeoni, also Midr. Psalms for xxxix. 2.
[2] Lev. R. xxiii.
[3] Prov. xvii. Derech Eretz Zuta vii.
[4] Erachin 15*b*.
[5] Jer. ix. 7, Ps. cxx. 7.

injurious weapon. For example, a sword after it has been unsheathed from its scabbard can still be put back without doing damage, but an arrow, once it has been released, is bound to accomplish its work.[1] Again, a sword can only inflict damage locally, whilst an arrow can kill at a great distance.[2]

"If speech is worth a sela," says a Talmudic proverb, "silence is worth two."[3] Silence in a Babylonian was a sign of good breeding.[4] "All my life," said R. Simeon ben Gamliel, "I have grown up among the wise, and have found naught of better service than silence; not learning, but doing, is the chief thing, and whoso is profuse of words causes sin."[5]

The great value of **acquisition of knowledge** was epigrammatically expressed by Hillel as follows: "An empty-headed man cannot be a sin-fearing man, nor can an ignorant person be pious."[6] A learned man who is of illegitimate birth is preferable to an ignorant priest.[7] Knowledge without practice was, however, decried. "Not learning, but *doing*, is the chief thing," said Simeon ben Gamliel;[8] and Rabbi Eliezer ben Azariah used to say: "He whose wisdom exceeds his works, to what is he like? A tree whose branches are many, but whose roots are few, and the wind comes and plucks it up and overturns it upon its face. . . . But he whose works exceed his wisdom is like a tree whose branches are few, but whose roots are many, so that, even if all the winds in the world come and blow upon it, it cannot be stirred from its place."[9]

[1] Midr. Psalms 120.
[2] Erachin 15*b* and Jer. Pĕah i.
[3] Megillah 14*a*.
[4] Kiddushin 71*b*.
[5] Abboth i. (end).
[6] *Ibid.*, ii. 5.
[7] Horyoth 13*a*.
[8] Abboth i. 17.
[9] *Ibid.*, iii. 22.

Patience.

Patience as a virtue is referred to many times. Ben Yoma used to say, "Who is mighty?" He who subdues his passions, as it is said: "He who is slow to anger is better than the mighty; and he that ruleth over his spirit than he who taketh a city."[1]

As an example of patience the following story of Hillel can hardly be excelled:

A man once had a wager with a friend that he would put Hillel out of temper. It was close upon Sabbath eve, and Hillel had just entered his bath, when the man came in hurriedly and demanded to see Hillel. The Rabbi wrapped his cloak round him, came out of his bathroom, and inquired what the man wanted. "I want to ask thee a question," replied the man. "Ask on, my son," said Hillel. Whereupon the man said: "I want to know why the Babylonians have long heads," which was meant to be insulting, as Hillel was a Babylonian. "A very important question, my son," said Hillel. "The reason is because their midwives are not clever" (and do not take care of the shape of the fœtal head). The man went away, but returned an hour later, again demanding to see Hillel. The Rabbi came out and politely asked him what was his pleasure. "I want to know," said the man, "why the people of Tadmor have round eyes" (palpebral fissures). Hillel replied: "This is a very important question, my son; and the reason is that they live in a sandy country, and Nature has provided them with round eyes as a protection against the sand." The man went away, but returned an hour later, again impatiently crying out, "Where is

[1] Prov. xvi. 32. Abboth iv. 1.

Hillel? where is Hillel?" The gentle Rabbi again came out, and asked what he could do for him. "I have another question to ask," said the man: "why have the Africans such broad feet?" "A very important question," said Hillel, "and the answer is, because the Africans live in marshy lands, and Nature has therefore provided them with broad feet, lest they sink in the swamps." "I want to ask many more questions," said the man, "but I am afraid that I shall only try thy patience and make thee lose thy temper." "Continue with thy questions, my son," said Hillel. "Art thou Hillel," said the man, "whom they call a prince in Israel?" "Yes," was the reply. "Well," said the man, "I pray there may not be many more like thee in Israel." "And why not?" inquired the sweet-natured Rabbi. "Because," said the man, "through thee I have lost 400 zuzim" (about £12, a zuz being about 7d.). "Be warned for the future," said Hillel: "it is better that thou shouldest lose twice that sum than that Hillel should lose his temper."[1]

As another story illustrating the lesson of patience, the following one may be given:

R. Ada b. Ahabah saw a woman wearing a head-dress unbecoming for a Jewess, and, mistaking her for a Jewess, tore it from her in his zeal. He was fined 400 zuzim, whereupon he quoted the popular adage: "*Matun matan arba meah zuza shavye*" (Patience is worth 400 zuzim). This is a play on the word *Matun*, which denotes "patience," while *matan*, the plural of *meah*, means "two hundred."[2]

[1] Sabb. 31*a* and Abb. d'R. Nathan xv.
[2] Ber. 20*a*.

Pride.

R. Simeon b. Yochai used to say: "He who is proud is like one who commits idolatry."[1] "Why," says Rabbi Chanina, "is knowledge compared to water, as it is said: 'Ho, every one that thirsteth, come ye to the water'? Because as water runs from a high to a low level, so knowledge can only be retained by those that are meek and humble."[2] "Have regard for the poor," says the Talmud in another place, "for it is from them that knowledge and learning come."[3]

Luxurious living is incompatible with study. "This," says the Rabbi, "is the way that is becoming for the acquisition of knowledge: a morsel of bread with salt thou must eat and water by measure thou must drink; thou must sleep upon the ground and live a life of trouble, whilst thou toilest in the Torah."[4] (Compare modern Jewish student's life in the *yeshibah*, etc. See Chapter XVIII., p. 311.) "A learned man who is proud," said R. Akiba, "is like a carcase lying in the wayside: the traveller turns his head away in disgust."[5] R. Akiba also taught his pupils not to push themselves in front, for it is better that people should ask you to come up than to go down (Prov. xxv. 7).[6]

Kindness.

Hillel used to say: "Do not unto others what thou wouldst not have done unto thyself."[7] R. Jochanan ben Zakkai said: "A good heart is better than a good eye, a good friend, a good neighbour, and foresight."[8]

[1] Sotah 4*b*. [2] Taanith 7*a*. [3] Nedarim 81*a*.
[4] Abboth vi. 4. [5] Abb. d'R. Nathan xi.
[6] Abb. d'R. Nathan xxv. 4. [7] Sabbath 31*a*. [8] Abboth ii. 9.

The following pretty anecdote is a good object-lesson in kindness:

R. Akiba had a daughter, and the astrologers told him that on her wedding-day she would be killed by the bite of a serpent. He was greatly disturbed, but did not tell his daughter about it. When the wedding-day arrived, a poor man came to the door begging for some food. As everyone was busy in the house, the bride gave the beggar her own meal. When she retired in the evening, she stuck her brooch into a crevice of a wall. Next morning, when she took the brooch down, a dead serpent whose eye had been penetrated by the pin fell to the floor. When her father's attention was called to this, he asked her what good act she had done, and when she told him of her kindness to the poor man, he told her that it was that which saved her life; for "righteousness delivereth from death."[1]

A certain sage named Rav Broka once met Elijah the prophet in the street, and asked him whether he could single out any of the passers-by as worthy of future bliss. To Broka's astonishment, Elijah pointed out a man who was dressed as a pagan. On inquiry it turned out that the man was a governor of a prison, that he was kind to the convicts under his charge, and took special care to prevent immorality in the prison.[2]

Truth.

The penalty that a liar has to pay is not to be believed even when he tells the truth.[3] As illustrating the importance of telling the truth at all times, the following anecdote may be given:

[1] Prov. x. 2. Sabb. 156*b*.
[2] Taanith 22*a*.
[3] Sanhedrin 89*b*.

A certain Rabbi lived in a place called Kushta, where the people were most scrupulously truthful, and where as a reward for their integrity they lived to a good old age. One day, when his wife was combing her hair, a neighbouring woman came to ask for her. Thinking it was a breach of etiquette that she should be seen at her toilet, the Rabbi said that his wife was not in. Soon after his only two sons died. When the cause of their premature death was ascertained, the Rabbi was asked to leave the town, lest the whole community suffer for his misconduct.[1]

One more story will not be out of place here as an illustration of etiquette, absolute integrity, and kindness:

Simon Antipatros was a man famous for his great hospitality. On one occasion he invited certain wayfarers to his house and offered them food and drink. At first they vowed they would neither eat nor drink, but afterwards changed their minds. When they had to take their leave they were assaulted with a strap. Rabbi Yochanan b. Zakkai got to know of this, and decided to investigate the matter. One of his faithful disciples, R. Joshua, consented to go. He went and found the host standing at the door of the house, who invited him to partake of his hospitality. Joshua went in, had a hearty meal, and engaged in conversation as well as learned discussion with his host till the evening. The next morning he had a bath and breakfast, got ready to go, and was fully prepared to receive a good thrashing. This, however, did not come. Before bidding his host good-bye, Joshua turned round and asked him why it was that he gave the other visitors

[1] Sanhedrin 97*a*.

the strap, whilst he omitted that ceremony in his case. Simon replied: "Thou art a great sage and hast good manners; but the others, to whom thou dost refer, took a vow not to eat or drink, and have broken their vow, and I have heard it from the mouths of the sages that whosoever breaks his vow shall receive forty stripes."[1]

Unselfishness.

As a lesson in unselfishness the following is a good example:

One day, as Hillel's wife was preparing a meal for her husband and an expected visitor, a poor man came to the house and asked for food. Without thinking twice, she gave him the food which she was preparing, and began to prepare another meal for her husband and his guest. When Hillel came home and found that the repast was not ready, he said to her: "My child, what is it that made thee unpunctual to-day?" So she told him what had happened. Hillel looked very pleased, and said: "My child, I guessed that it was due to some charitable act on thy part."[2]

Independence and Self-Reliance.

The value of independence and self-reliance is illustrated by the following remarks of the sages. Hillel used to say: "If I am not for myself, who will be for me?"[3]

R. Akiba told his son to turn his Sabbath into a weekday rather than depend on others.[4] Again: "He who is dependent on another man's table has all the world dark for him."[5]

[1] Derech Eretz R. vi. [2] *Ibid.*
[3] Abboth i. 14. [4] Pessachim 112*a*. [5] Beitza 32*b*.

Love of Work.

"Idleness is the mother of all evil."[1] R. Simeon ben Eliezer said that Adam did not taste any food until he did some work. He based his statement on Gen. ii. 15, 16.[2]

The following legend is narrated in the Midrash:

King Hadrian, on going to the battlefield with his troops, passed an old man who was planting fig-trees. "How old art thou?" asked the King. "A hundred years, your majesty," answered the old man. "Dost thou hope to eat the fruit thereof?" was the King's next question; but the old man replied: "It is my duty to plant. If God spares me to eat the fruit myself, well and good; if not, then my children will enjoy it in the same way as I am enjoying the labour of my ancestors." The war lasted three years, and on his way back the King found the old man in the same place, still working. The man took a basketful of ripe figs and presented it to his majesty, and as a reward the King ordered that the basket be filled with gold. The old man took the basketful of gold home and told his family what had happened. A neighbouring woman, hearing the story, went to her husband, and said: "Look! everybody is doing something, and God helps them; but thou dost nothing, and sittest at home in the dark. Do thou as our neighbour did. Take a big basket and fill it with apples, figs, and other good fruit, and present it to the King, who is so fond of them; maybe he will reward thee in the same manner as he did the old man." The man did as his wife bade him; he filled a large basket full of figs, and presented it to the King, saying: "Your

[1] Kethuboth 59*b*.

[2] Abboth d'R. Nathan xi. 1.

majesty, I have heard that you are partial to this kind of fruit, and I therefore humbly present it to your majesty." The King felt amused, and ordered his servants to take the figs and throw them in the man's face. When the unfortunate man came home with a swollen face and bruised eyes and limbs, he said to his wife: "I shall pay thee the same reward as the King paid me." But his wife retorted: "Be pleased that it was figs thou didst give to the King, and not lemons, and that they were ripe and soft, or thy injuries would have been much more severe."[1]

Strict Honesty.

People should be honest for its own sake, and not for the sake of the reward or out of fear of punishment. The story is told of an Empress of Rome who lost a costly diadem. She proclaimed a handsome reward to the person who would restore it in thirty days, but he who brought it after thirty days should lose his head. A certain Rabbi R. Samuel bar Sasrote, whilst walking in the street, found this precious ornament, but, instead of returning it immediately to the Empress, kept it with him until the thirty days expired. He then secured an audience of the Empress, told her his story, and returned the diadem. "Why didst thou delay till now? In accordance with the decree, thy head must be forfeited." "I delayed till now," answered the Rabbi, "to show it was neither for the sake of the reward nor out of fear of punishment, but with the sole idea of returning lost property to its rightful owner." The Empress was greatly pleased, and dismissed the Rabbi without further reproof.[2]

[1] Lev. R. xxv. and Tanchuma Kedoshim.

[2] Jer. Baba Metzia ii.

Another anecdote with a similar object-lesson is the following:

Alexander the Great, during his travels in Central Africa, visited the court of law and heard a dispute between two litigants concerning the purchase of a plot of land in which a treasure of gold was discovered after the land had been bought and paid for. The purchaser claimed that the gold belonged to the seller, as only the land and not the treasure was paid for; whilst the seller pleaded that, as he sold the field with everything it might contain, the gold belonged to the purchaser. The Judge arbitrated as follows: "Let the son of one marry the daughter of the other, and let the gold be their marriage portion; then both of you will be at peace." Alexander was astonished at the verdict, and said that in his country treasure-trove is confiscated for the King. "Is your country blessed by sun and rain?" said the Judge. "Yes," replied Alexander. "And are there cattle in your country?" continued the Judge. "Yes," replied Alexander. "Then," remarked the Judge, "it must be for the sake of those innocent animals that the sun shines and the rain descends, for the Lord preserveth man and beast."[1]

One more story is worth repeating: Rabbi Phineas entertained two strangers in his house, and on departing left behind a few measures of barley. When they happened to return to his house a year later, Phineas told them to bring asses and camels to carry away the 500 measures of barley, the product of their few measures which he had sown in his fields.[2]

[1] Ps. xxxvi. 6. Tamid 32*b*, Tanchuma and Lev. R. xxvii..

[2] Jerushalmi Damai i. 3 and Deut. R. iii.; also *cf.* Taanith 24*a*. Jer. B. Metzia ii.

Optimism.

The value of a cheerful disposition at all times is to be learned from an incident that happened in the life of R. Akiba. That remarkable person was not only exceedingly modest and learned, but whatever befell him he used to say, "It is all for the best." Once in the course of his wandering, having been exiled by a tyrannical Roman Government, he wanted to stay at an hotel in a certain town, but the hotel-keeper refused him permission. "It is for the best," said Akiba, and he went into a field and sat down to study by the light of his lamp. A wind came and extinguished the light. "It is all for the best," said the Rabbi, and lay down to sleep. But as soon as he had done that the cock which accompanied him, to announce the coming of dawn, was killed by a wild animal. "It is all for the best," said Akiba, and went to sleep again. It was not very long before a lion came and devoured his ass. Akiba, as optimistic as ever, uttered his usual formula, "It is all for the best." When he awoke next morning, he found that robbers had come into the town and killed all the inhabitants. He then learned from experience that it was all for the best; for had the robbers seen the light of his lamp, or heard the braying of his ass or the crowing of his cock, they would have found him, too, and put him to death.[1] See, further, under "Cheerful Disposition," p. 272.

[1] Berach 60*b*, and Rashi *ad loc.*

Greed.

R. Ishmael was once offered a cup of wine by R. Shimon. The former accepted it at once, and drained it at one draught. His host reprimanded him, saying: "Dost thou not know the proverb that 'He who empties a cup of wine in one gulp is a greedy one?'" But R. Ishmael wittily retorted that the proverb did not apply in that case, "for the cup is small, the wine excellent, and my stomach capacious."[1]

The following anecdote told by R. Joshua b. Chananya against himself shows how he was once cured of his greediness by the tactful action of a clever woman. He once stayed at the house of a widow. The first day she put his dinner in front of him, and, as he was hungry, he ate up the whole without leaving anything for the servants, as was the custom. The next day the same thing happened. The third day the lady so over-seasoned the dish she prepared for him that he could not eat it. He put it aside and ate bread instead. "Why dost thou not eat?" said the hostess. "Because I am not hungry," answered the Rabbi. "If that is so, why didst thou eat bread? But," continued the clever woman, "I can guess thy motive: thou probably leavest this for the poor servants whom thou didst forget in the two preceding days."[2]

Mutual Responsibility.

Rabbi Simeon said to his pupils that every individual sinner makes the whole community suffer for his sins. He emphasized his lesson with the following story:

[1] Pessachim 86*b*.

[2] Derech Eretz R. vi. Erubin 53*a* and Echa R. i. 9.

There was once a boat full of passengers, and a man suddenly began to bore a hole through the boat immediately underneath his seat. When the other passengers interfered, he told them to go about their business, as he could do with his own seat what he liked. "You fool!" they replied, "if the water comes in, we shall be drowned as well as you."[1]

Consideration for the Feeling of Other People.

R. Simeon b. Yochai used to say: "It is better to throw oneself into a burning furnace rather than shame a neighbour in public."[2]

One day when R. Eleazar completed his studies at the University and returned home, he was greeted by an ugly crippled man. R. Eleazar, instead of acknowledging the salute, jestingly asked the man if all the people in the town were as ugly as he. The man felt hurt, and quietly answered: "Go to the Master who created me, and reproach Him for His work." Eleazar, noticing the fault he had made, descended from his ass, and walked all the way with the man, praying to be forgiven.[3]

Another illustrative of the same is told of R. Joshua b. Chananya, who was very learned but very ugly. He was a great friend of the Roman Emperor Hadrian, and one day a Princess chaffed him on his want of beauty, by asking him how it was that such glorious wisdom was enclosed in so mean a vessel. The Rabbi answered by asking her in what kind of vessel her father kept his wine. "Why, in earthen vessels, to be sure,"

[1] See Jack Myers, "Stories from the Rabbis."

[2] Baba Metzia 59*a*. See "Gems," 30, and Berach. 43*b*; Hyman, "Toledolt Tanaim," vol. iii., p. 1182.

[3] Taanith 20*a* and *b* and Abboth d'R. Nathan xli. 1.

answered the Princess. "I am surprised," said the Rabbi; "for it is, surely, not fit that an Emperor's wine should be kept in any but golden vessels." The Princess informed her father of the Rabbi's idea, with which he agreed. He thereupon ordered a quantity of wine to be kept in vessels of gold. Some time later the Emperor remonstrated with the Rabbi, and rebuked him for giving such bad advice to his daughter; for the wine that was in golden vessels all became sour and spoiled. "Ah," said the Rabbi, "I merely wanted to prove to her that wine, like wisdom, keeps best in plain and mean vessels."[1]

One more story will not be out of place. There was a man who had a friend of the name of Kamtza, and an enemy named Bar Kamtza. He once sent a servant to invite Kamtza to a feast, but by mistake the servant called Bar Kamtza. When the host found that Bar Kamtza came, he went up to him and ordered him to leave the house. "I pray thee," said the unwelcome visitor, "since I have come, let me stay; I shall pay for my food." "No!" said the host; "you must go." "I shall defray half the cost of the banquet," pleaded Bar Kamtza, "but do not subject me to this indignity." "No!" said the host again; "I shall pay for the whole feast." But the host was obdurate and ejected him by force. "Then," said the man, as the Rabbis present sat quietly and did not interfere, "it is evident they approve of it." So he went to the Emperor, and by a clever trick convinced him that the Jews rebelled against his majesty. This led to war, in which Jerusalem was destroyed.[2] Rabbi said: "Come and see how great is the power of the sin of putting somebody to shame; for be-

[1] Taanith 7*a*. [2] Gittin 55*b*, 56*a*.

hold, the Holy One, blessed be He! helped Bar Kamtza, and the Temple was destroyed in consequence."[1]

As a moral to illustrate the three bits of advice not to cry over spilt milk, not to desire what is unthinkable, and not to believe what is impossible, the following fable is a good one:

A man had a beautiful garden with lovely flowers, which he tended with the utmost care. One morning he was surprised to find that some blossoms were picked to pieces. He gave himself no rest until he found the offender. It was a little bird. He managed to catch it, and was about to kill it in his anger, when it exclaimed: "Do not kill me, I beg you, kind sir; if you let me free, I will teach you something that will be of much use to you and your friend." He promised to let it go, when the bird cried out: "My lesson is (*a*) not to cry over spilt milk, (*b*) not to desire what is unattainable, and (*c*) not to believe what is impossible." The man was satisfied and let the bird escape; but it had scarcely regained its liberty, when it exclaimed: "What a silly man! the idea of letting me escape! If you only knew what you have lost!" "What have I lost?" asked the man angrily. "Why, if you had killed me, as you intended, you would have found inside me a huge pearl as large as a goose's egg, and you would have been wealthy for ever." "Sweet little bird," said the man, "I will not harm you; come down, and I will treat you most kindly and give you fruits and flowers all day." "What a silly man," answered the bird, "to have forgotten so soon the advice I just gave you! I told you not to cry over spilt milk, and here you are worrying over what has happened. I advised you not to desire

[1] Gittin 57*a*.

the unattainable, and now you wish to capture me again. And, finally, I urged you not to believe what is impossible, and you stupidly believe that such a huge pearl is inside me, when a goose's egg is larger than my whole body!"[1]

Bad Habits.

To illustrate the fact that bad habits, once formed, are rarely abandoned, the Midrash tells the story of a man who was so addicted to drink that he sold his household to satisfy his depraved appetite. His sons tried all the ordinary means to rid him of his habit, but it was all in vain. At last they decided upon a desperate remedy, and while in a state of intoxication they carried him to the cemetery and placed him in a cave, with dead bodies all round him, hoping that when he awoke the melancholy scene would make him reflect on his past life, and would help him to give up his pernicious habit. The next morning they came to the cave, and, to their astonishment, instead of finding their father hungry but sober, found him as drunk as ever, with a partly empty bottle at his mouth and with other bottles lying near him. It would seem that smugglers who intended to introduce wine into the town, on seeing the excise officer at a distance, temporarily deposited their wine in that particular cave, as a place least likely to be searched. When the old man awoke next morning, he was at first terrified at finding himself in so melancholy a place; but his sorrow was turned into great joy when he discovered the rich store of wine deposited near him. When his sons found him in this

[1] Dr. Isaacs, "Stories from Rabbis," pp. 168-171.

state of intoxication, they were greatly grieved and disappointed, and took him home, saying: "Alas! our endeavours are vain; the disease is incurable."[1]

Power of Observation.

(*A Talmudical Sherlock Holmes.*)

The story is told of a man who bought a servant to accompany him on his journey home. Having paid the money, he discovered, to his dismay, that the servant was blind in one eye. "Be comforted," said the slave-dealer; "though he is blind of one eye, he can see much better than persons with two." The man departed with his servant. When they had gone a little way, the one-eyed slave said: "Master, there is a traveller ahead of us; if we go fast enough, we shall overtake him." "I see no traveller," said his master. "Nor I," said the slave; "but I know that he is just four miles distant." "Thou art mad," said the master. "How shouldst thou know what passes at so great a distance, when thou canst scarcely see what is before thee?" "I am not mad," said the slave, "yet it is as I said. Moreover, the traveller is accompanied by an ass who, like myself, is blind of one eye. She is big with two young, and is laden with two skin bottles, one of which contains vinegar, and the other wine." The master, who thought that the slave was either insane or making fun of him, was wild with rage. They, however, travelled on, and after a little while overtook the traveller, when the master found that everything was as the slave predicted, and asked him to explain how he could know all this

[1] Lev. R. (beginning of ii.).

without seeing. The slave replied: "Although I have not seen what I described, yet I knew that the traveller was four miles ahead of us; for the almost imperceptible impressions of the ass's hoofs in the road indicated that she could not be more distant than four miles, beyond which the impressions would not be visible. The grass having been eaten away on one side of the path, and not on the other, plainly showed that the ass must have been blind of one eye. Again, the impression which the animal left on the sand where she rested showed clearly that she was with young. Further, the impressions which the liquid had made on the sand; some appeared spongy, whilst others were full of small bubbles caused by fermentation. These clearly indicated the nature of the liquids."

The master admired the sagacity of his servant, and thenceforth treated him with great respect.[1]

Another interesting example of the value of training the faculty for observing details is narrated in the Midrash. The Queen of Sheba, in order to test King Solomon's wisdom, brought before him male and female slaves, the latter disguised as men, and she asked him to distinguish which were men and which were women. Solomon ordered a servant to bring him some nuts, which he distributed to them. The males lifted up their dresses a little to make a fold into which to put the nuts, whilst the females, on account of their modesty, deposited the nuts in their handkerchiefs. Solomon then said to the Queen: "These are men, and those are women."[2]

[1] Echah Rabba; see also Sanhedrin 104.

[2] Midrash to Proverbs and Targum Shemi

Kindness to Animals.

The consideration to be shown to animals is referred to in many places in the Bible. In fact, the Bible is practically the only one of the religious books of antiquity which insists upon this great obligation.[1]

Animals of unequal strength must not be yoked together, lest the strain be too great for the weaker one.[2] The beast of burden must, like its master, rest on the Sabbath-day.[3] The story is told of a pious man who, on account of poverty, sold his cow to a heathen. The purchaser was thoroughly satisfied with the animal until the Sabbath-day arrived, when the cow refused to do any work. He came to the Jew and demanded his money back, but the Jew understood that it was merely a matter of habit with the animal, which was accustomed to rest on the Sabbath-day. He therefore whispered into the animal's ear, saying that, as she no more belonged to him, it was her duty to work even on the Sabbath. The animal obeyed, and worked seven days a week.[4]

"He who does not have pity upon animals," says the Talmud, "will have heavenly punishment meted out to him."[5] It is forbidden to taste any food until one has first fed his animals.[6] In order to relieve suffering in an animal, even rabbinical laws are to be broken, if need be.[7]

Special consideration is to be shown to dogs, because of their great attachment to their owners. The follow-

M. Joseph, "Judaism as Creed and Life," London, 1903, p. 472.
Deut. xxix. 10. [3] Exod. xx. 10, xxiii. 12.
Pesikta R. xiv., Midrash Assereth Hadibroth xxvii.
Baba Metzia 85*a*.
Berachoth 40*a* and Gittin 62*a*. [7] Sabbath 128*a*.

ing story is told of a dog that saw his master's milk tasted by a serpent: When his master returned, and was about to partake of the milk, the dog began to bark. But his master paid no attention to his warning. The dog then, in order to save his master's life, drank all the milk himself on the spot and died.[1]

It is recorded that R. Judah the Prince had for many years to suffer physical pain because a calf which was about to be slaughtered ran to him in terror and hid its head under his cloak, but he thrust it away with the words, "Go and be killed, for such is thy destiny."[2]

The Midrash declares that Moses proved himself worthy of being Israel's ruler by his kindness to the flock which he tended when he was a shepherd. He once found a weary lamb that had strayed from the fold, and, taking it in his arms, he carried it back tenderly. Then a voice called out from heaven: "Moses, man of merciful heart, thou shalt lead My flock."[3]

General Discipline of Children.

A child should rise before the aged,[4] and be generally polite to his elders (see story in Chapter I., p. 16). Before entering a house one must knock at the door.[5] The answer "Yes" to the knock means "Wait."[6] If a child wishes to address a person, he must first call the person by name,[7] but a parent or teacher must not be called by name. Gehazi was visited with leprosy for naming Elisha without having said "my master Elisha."[8] It is bad manners to eat in the street; one who does so

[1] Pesikta d'R. Kahana x.
[2] B. Metzia 85*a*.
[3] Exod. R. ii. 2.
[4] Lev. xix. 32.
[5] Nidah 16*b*.
[6] Baba Kama 33*a*.
[7] Yoma 4*b*.
[8] Sanhedrin 100*a*.

is like a dog, and is disqualified as a witness.[1] A child at table must wait until the older people have begun to eat. One who does not do so is a gourmand.[2]

A story is told of R. Akiba, who invited two of his pupils to dinner. The first dish put on the table was roast chicken. The first pupil took the chicken and wanted to break off a piece, but did not succeed. He put the chicken back and ate bread alone. The second child was not so well-mannered as the first; he took hold of the chicken and bit a piece off with his teeth, when R. Akiba caustically remarked: "Not so, my son; but put your foot on the plate and break a piece off." Boiled chicken was then served, and they had as much as they wanted. After dinner R. Akiba said to the pupils: "I only did that in order to see whether you knew the ordinary etiquette of the table."[3] One must not offer somebody else a bite from one's own morsel of food or a drink from one's own cup.[4] It is bad manners to mop up the sauce on a plate with a piece of bread.[5]

Seven things, says the Talmud, distinguish a well-mannered person from a boor: A polite person does not speak in the presence of another who is more learned than he; does not interrupt anybody else who is speaking; he does not hasten to answer before considering the question; he asks relevant questions and answers in a relevant manner; if he does not know a thing, he says so and tells the truth. The opposites are the case with a boor.[6]

The following story is told in the Talmud:[7]

[1] Kiddushin 40*b*.
[2] Derech Eretz R. vii.
[3] Derech Eretz R. vii.
[4] *Ibid.*, ix.; also Taanith 27*b*.
[5] Derech Eretz R. ix.
[6] Abboth v. 7.
[7] Pessachim 86*b*; see also Beitza 25*b*.

Rav Hunnah, son of R. Nathan, visited R. Nachman, son of R. Isaac. When the latter asked him his name, the reply was: "My name is Rav Hunnah." He was then invited to take a seat on a sofa, which he at once did. He was next offered a glass of wine, which he immediately accepted, and emptied the contents in two sips in front of the company. His host then put him through the following catechism: (1) "Why, when giving your own name, did you call yourself Rav Hunnah instead of simply Hunnah?" He replied: "I have been called so from my childhood." (2) "Why did you at once accept a seat on the sofa, without having the modesty to take a less distinguished seat?" "Because it is good manners to do the host's bidding, except when he orders you out of the house." (3) "Why did you not wait to be asked twice before accepting the wine?" "Because it would have been contrary to good taste not to accept it at once, considering the greatness of the man who offered it." (4) "Why have you emptied the glass in two sips?" "Because," replied Hunnah, "he who empties his glass in one gulp may be looked upon as a drunkard, the man who drinks it in two portions shows good manners, but he who makes three sips manifests arrogance." (5) "Why have you not turned away your face from the company when drinking?" "Because that would be more becoming in a blushing bride than in a man."

R. Ishmael, son of R. José, once drank a glass of wine in one gulp, and when the aphorism of R. Hunnah was mentioned to him humorously, he replied: "This doctrine does not apply to such a small glass, such excellent wine, and to the immense space for stowing away drink that I have."

CHAPTER XXI

THE PHYSICAL EDUCATION OF CHILDREN

"If thou hast run with the footmen, and they have wearied thee, then how canst thou contend with the horses?" (Jer. xii. 5).

As every Israelite in the time of the Bible was bound to do military service between his twentieth and his fiftieth year, physical training must have been practised in childhood.

The Bible is full of evidence of great skill in every branch of athletics and physical exercise.

Nimrod was a mighty hunter,[1] and so was Esau.[2] Jacob was skilled in wrestling.[3] Naphthali was as swift on his legs as a hind,[4] so were the Gadites.[5] Jonathan was an expert archer,[6] as were also the 700 chosen men of the children of Benjamin, every one of whom could sling stones at a hair's breadth and not miss.[7] Jehu drew a bow and smote Jehoram in his heart.[8] Swimming was also practised by means of the breast stroke.[9] To learn to swim, special belts were employed.[10]

In the time of Antiochus Epiphanes a gymnasium modelled on a Greek plan was established close to the

[1] Gen. x. 9.
[2] Gen. xxv. 27.
[3] Gen. xxxii. 25, 26.
[4] Gen. xlix. 21.
[5] 1 Chron. xii. 8.
[6] 1 Sam. xx. 20, 2 Sam. i. 22.
[7] Judg. xx. 16.
[8] 2 Kings ix. 24.
[9] Isa. xxv. 11, Midrash to Ps. cxiv. 7.
[10] Beitza 36*b* and Kelim ii. 3.

Temple of Jerusalem, where the boys might practise wrestling, boxing, ball-playing, throwing, slinging, archery, jumping, riding, swimming, and diving, under the supervision of a master.[1] This institution flourished notwithstanding a great amount of opposition.

A century later, circuses, bullfights, and gladiatorial contests, took the place of the gymnasium, but these were forbidden by the Rabbis on account of certain obscenities which were practised there.[2] Some Rabbis, however,—*e.g.*, R. Gamliel the patriarch—favoured these institutions as a means of preparing the Jews for their intercourse with the Roman rulers.[3]

As an example of great skill in swimming and endurance may be mentioned the incident narrated by Josephus; he together with 600 men was shipwrecked in the Adriatic Sea, and they all swam for their lives all night.[4] Simon ben Lakish was also a celebrated swimmer. Thus, the Talmud tells the story of R. Jochanan, who was extremely good-looking, that he was bathing in the Jordan, when he was mistaken for a woman by Resh Lakish (who was then a bandit), who dived in after him. "Thy strength," said R. Jochanan, "would be better applied to the study of the law." "And thy beauty," replied the other, "would be more becoming in a woman." The Rabbi replied: "If thou wilt repent, I will give thee my sister, who is far more handsome than I am." He accepted the offer, and subsequently became a great man.[5] As a feat of marksmanship it is recorded that a certain R. Jonah was able to aim an arrow at a flying bird and kill it in the ritual

[1] 1 Macc. 1, Hasmoneans i. 17.
[2] Aboda Zarah 18*b*.
[3] Sotah 49*b* and Baba Kama 83*a*.
[4] The Life of Flavius Josephus, § 3.
[5] Baba Metzia 84*a*.

manner (*i.e.*, by severing the bloodvessels of the neck).[1]

As examples of juggling and sleight of hand one might mention the clever feats of R. Simeon b. Gamliel, who could take eight burning candles, throw them aloft one after another with one hand, and catch them back in the other hand, without letting them touch one another or burning himself. He could also bend down with his face to the ground supported only by his two thumbs, kiss the floor, and rise up again without any help—a feat which no one could imitate. Levi, a well-known preacher, used to perform the same juggling trick with eight knives without cutting himself. Samuel, a physician, lawyer, and astronomer, was able to do the same with eight glasses full of water without spilling a drop, and Abbaye with eight eggs without breaking one.[2]

Jerome, who lived in the fourth century, narrates that Jewish youths were in the habit of lifting round stones to various heights, according to their strength: very weak children raised them as far as the knees; stronger ones as far as the hips; still stronger ones as high as the shoulders, or even as high as the head; and very strong ones used to hold the stones with outstretched arms above their heads.[3] Playing horses is alluded to in Hosea, where God, speaking of Israel's childhood, says that He taught them to go by "taking them by their arms," and played with them by drawing "with cords of a man, with bonds of love."[4]

Ball-playing, a game resembling tennis, was chiefly practised amongst women.[5] On Egyptian monuments

[1] Chulin 30*b*.
[2] Succah 53*a*, Toss. Succah iv.
[3] Commentary to Zech. xii. 4
[4] Hosea xi. 3, 4
[5] Tosefta Sabbath x. 3, Num. R. xv. 2, Eccles. R. xii. 11.

it is chiefly women who are depicted as playing with balls.[1]

In the verse in Eccles. xii. 11: "The words of the wise are as goads," the Midrash makes a play on the Hebrew words for "as goads," which is *kadorbonoth.* By splitting this word into two we get *kadur bonoth,* which mean "ball of girls," and the Midrash therefore interprets the verse as follows: The words of the wise are as the balls with which girls play; viz., they roll from hand to hand, but do not fall to the ground.[2] Tourney and duelling were also practised.[3] In the Middle Ages foot-racing and ball-playing were favourite Jewish games. These sports were played in the streets or parks. Sometimes nuts took the place of balls,[4] and the winner broke the opponent's nuts. Skittles was also played,[5] and so was blind-man's buff, prisoner's-base, and leapfrog. Playing with animals was a pastime indulged in as early as the Biblical period. When God reprimanded Job, He pointed out the strength of leviathan, and asked Job: "Wilt thou play with him as with a bird? or wilt thou bind him for thy maidens?"[6] Playing with locusts is mentioned in the Mishna.[7]

The more strenuous gymnastic exercises were, however, abandoned by the Jews after the wars with Rome.

Maimonides lays great stress on exercise and he specially recommends breathing exercises and discourages very fatiguing exercises. He recommends that exercises be taken in the form of games which give both

[1] Uhlemann, "Aegypt. Alterthumsk.," ii. 309.

[2] Eccles. R. xii. 11.; also Jer. Sanh. x. 1.

[3] Lam. R. ii. 4, Jer. Taanith iv. 5; see also I. Abrahams, *op. cit.*, p. 377.

[4] *Cf.* Erubin 104*a*.

[5] I. Abrahams, *op. cit.*, pp. 379, 380.

[6] Job xli. 5.

[7] Sabbath ix. 7 and 90*b*.

mental satisfaction and physical movements. The best game is throwing of balls from hand to hand. Exercise should not be taken on a full stomach and in very cold or hot weather.[1]

In modern times sports have been introduced into Jewish schools all over the world. Cricket and football are played with the greatest enthusiasm, and Jewish youths of either sex are found frequently in the drill classes wherever they are held. In Eastern Europe young children play with spinning-tops, especially on *Chanukah* (the Feast of Lights). This pastime dates from the Roman and Greek periods, but in order to make it specifically Jewish the spinning-tops are now engraved with Hebrew letters or historical allusions.

The various athletic societies in London have become amalgamated into the Jews Athletic Association and the Jewish Lads' Brigade (membership 2,000), which latter trains Jewish boys in all sorts of outdoor life and sports.

On the Continent, thanks to the efforts of Dr. Max Nordau of Paris and the late Professor Mandelstamm of Kieff, gymnastic societies were formed in all parts of the world, such as Germany, Austria-Hungary, Belgium, France, Switzerland, Turkey, Rumania, etc.

In 1911 there were altogether seventy-six such clubs, with a total membership of 6,000, apart from the English and American societies.

[1] Aphorism xviii.

CHAPTER XXII

THE CHILD IN JEWISH LAW

"R. Ishmael the son of R. José said: 'He who shuns the judicial office rids himself of hatred, robbery, and vain swearing; but he who presumptuously lays down decisions is foolish, wicked, and of arrogant spirit'" (Abboth iv. 7).

The Fœtus.

(*a*) **Criminal Law.**—According to the new law as represented by most of the Rabbis, the fœtus was not a separate being, but only a part of its mother. If, therefore, whilst injuring the mother, a man caused the death of the fœtus, he was not guilty of murder. For the same reason a death sentence had to be carried out on a pregnant woman, without waiting for her confinement.[1]

(*b*) **Civil Law.**—Although the normal duration of pregnancy was believed to be 271 days (a theory based on the numerical value of the letters composing the word *heroyon*, meaning pregnancy),[2] still, in order to render a fœtus legitimate, it was considered that "a child born twelve months after the departure of the woman's husband is legitimate."[3] If a mother died at a time when it was possible for a child to be extracted alive by Cæsarean section immediately after, this had to be done even on the Sabbath-day. An eighth-month baby not being considered viable, the Sabbath could not be

[1] Erachin 7*a*. [2] See p. 109. [3] Yebam. 80*b*.

profaned for its sake.[1] A stillborn child does not inherit from its mother to transmit property to its half-brothers (*i.e.*, brothers from the same mother).

Primogeniture.

A posthumous first-born son does not receive a double share of inheritance, and, similarly, a posthumous child does not diminish the share of a first-born son. For example, if a father dies leaving two sons, A and B, and 120 pieces of silver, and his widow is afterwards delivered of a third son, C, then A (the first-born) gets one-third of the whole (*i.e.*, 40 pieces of silver) and one-third of the remainder. He therefore receives altogether 66⅔ pieces of silver, the remaining 53⅓ pieces being equally shared by B and C, each receiving 26⅔ pieces. Should C afterwards die, A gets one-third of 120 (*i.e.*, 40), together with one-half of the remainder (*i.e.*, another 40), so that altogether he receives 80 pieces and B receives 40 pieces of silver.[2] (See further Chapter XI., p. 170 *et seq.*). If a man says to the husband of a pregnant woman, "Should the child that is about to be born to thee be a girl, I want her to be my future wife," and the offer is accepted, the acceptance is binding.[3] According to Maimonides, however, it is desirable that such a contract be ratified at the birth of the child.[4]

Maturity.

No definite age of maturity is given in the Bible. Youths under twenty-one were not taken as soldiers.[5]

[1] Sabbath 135*a*.
[2] Baba Bathra 142*a* and *b*.
[3] Kiddushin 62*b*.
[4] Ishuth vii. 16.
[5] Num. i. 3.

The Talmud fixes the age of puberty for boys at thirteen years, and for girls at twelve years and one day. From this period the individual becomes responsible for his or her own actions. According to another view, whilst a youth of thirteen was responsible in ordinary law, he was not altogether responsible for sins against God until he was twenty years old[1] (see p. 301).

The age of majority did not, however, render a person an adult. The signs of puberty (see Chapter XV., p. 237) were necessary for that.[2] If those signs did not appear, the person was still a minor till the age of twenty. If at that age signs of impotence developed (see p. 39), then he was admitted into the state of adult. If such signs did not develop, he was still a minor till the age of thirty-five years and one day. In the Middle Ages, no youth under eighteen was appointed to any office, because under that age he would not be able to command the necessary respect and authority, although exceptions were made occasionally. Cases are on record where boys under eighteen were chosen as Rabbis. In the year 1550 the congregation of Zephath, on the death of their Rabbi, Abraham Shalom, elected a temporary incumbent of the post until the deceased Rabbi's son Chiya attained the age of thirteen, when he was chosen to replace his dead father.[3]

A boy nine years old was regarded as being of marriageable age, so that if he had intercourse with a woman forbidden to him, she would be liable to punishment, although he could not be punished until he reached the age of maturity.[4]

[1] Sabbath 89*b*.
[2] Nid. 52*a*.
[3] See Löw, *op. cit.*, p. 156.
[4] Nidah 45*a* and Baba Bathra 156*b*.

In the case of a woman, the bearing of a child was regarded as sufficient to establish her majority.[1]

Several distinct stages were recognized in case of girls:[2]

(*a*) *Ketanah:* 3 to 12 years.
(*b*) *Na'arah:* 12 to 12½ years.
(*c*) *Bogereth:* after 12½ years.

A *ketanah* might be given in marriage by her father. Such a marriage was therefore valid, and could not be dissolved except by a divorce. If, however, the minor was divorced or widowed after such a marriage, her father or guardian could not remarry her while still a minor, even with her consent. Such a marriage would not become valid until she reached the age of twelve years.[3] Till that age she could leave her husband without a divorce if she so chose.[4] She merely had to say, "I do not wish to live with my husband."[5] Such a refusal was called *miun*. A girl who separated from her husband by means of *miun* might marry a Cohen (no other divorcée or widow might).[6]

In the first century the marriage of minors was objected to, and, although its abolition was not unanimously agreed upon, the practice is now obsolete.

The earnings and findings of a *ketanah* belonged to her father.[7] Illegitimate intercourse with her involved the ordinary punishment for the male, but she herself

[1] Yebamoth 126.
[2] Kethuboth 39*a*.
[3] Nidah 46*a*.
[4] Yebamoth 107*a*.
[5] *Ibid.*, 108*a*.
[6] The law of *miun* only applied if she was given in marriage by her mother or brother, but not when given in marriage by her father.
[7] Nidah 47*a*, Kethuboth 46*b*.

could not be punished.[1] Her vows could be annulled by her father.[2]

A *na'arah*, although still under her father's control,[3] was considered a responsible person. Her vows were valid.[4]

A *bogereth* was considered an adult entirely responsible for her own actions.

In the case of males, a boy at the age of nine was considered as being of nubile age. His marriage, however, was not valid;[5] and if he had illegitimate intercourse, punishment had to be postponed till the age of maturity—viz., thirteen years and one day—although the woman was liable to punishment.[6]

Transactions of Minors.

After the age of six, if the child showed an appreciation of business dealings, he was considered fit to dispose of movable property.[7] After the age of thirteen they could dispose even of real property that came into their possession through gift or purchase, but not that acquired through inheritance. Of such property they could only dispose after the age of twenty.

As regards *testimony*, their evidence was admitted after the age of thirteen in cases of disposal of movable property, unless they showed special intelligence, when it was admitted even in cases of immovable property.[8]

Before age of thirteen, a boy is not obliged to observe all the commandments of Judaism, and his father is

[1] Nidah 44*b*.
[2] Kethuboth 46*b*.
[3] Kiddushin 41*a*.
[4] Nidah 45*b*.
[5] Kiddushin 50*b*.
[6] Nidah 44*a*.
[7] Gittin 59*a* and 65*a*.
[8] Baba Bathra 155*b*.

responsible for the boy's actions.[1] After that he becomes an adult fully responsible for his actions, and may be counted as one of ten needed for public worship.[2] (See *Barmitzvah*, Chapter XV., p. 234.)

Minors are placed in the same category as deaf-mutes and idiots, who are incapable of performing religious observances. Still, parents are enjoined to train their children in the observance of all religious duties even before the age of maturity. On the Day of Atonement children nine years old should fast part of the day, and those eleven years old should fast the whole day if strong enough.[3]

Tsitsith are expected to be worn by a male child from the earliest youth, *tephilin* after the age of thirteen, the *talith* after marriage in Eastern Europe, and after *barmitzvah* in Western Europe and America. (See also articles Infancy, Evidence, Consent, Gifts, Deaf and Dumb, Insanity, in the "Jewish Encyclopædia.") For rights of illegitimate children, see Chapter XII., p. 202.

[1] Abboth v. 21. [2] Orach Chayim 55*a*. [3] Yoma 78*b*, 82*a*.

CHAPTER XXIII

THE PATHOLOGY OF THE JEWISH CHILD

"What is the difference between the death of children and that of old people? R. Abahu said the difference is the same as the plucking of an unripe and of a ripe fig; the former is bad for both the fruit and the tree, the latter is good for both" (Gen. R. 62).

THE Talmud says that when Eve ate of the tree of knowledge God cursed her ten times, one of the curses being the difficulty of bringing up children.[1] Jacob is said to have had trouble in rearing his offspring.[2] The term "the difficulties of bringing up children" was one used to designate collectively all the ailments of infancy and childhood.

That these were very common and fatal in the time of the Talmud is evidenced by the fact that a certain Rabbi mournfully declared that "it was easier to see a whole forest of young olive-trees grow up than to rear one child in Palestine."[3] Amongst the factors which help to increase infantile mortality, the Talmud mentions the following: The sin of not keeping a vow; the sin of idleness and keeping away from study, as well as the sin of hating somebody without cause; the last is also credited with causing abortion and miscarriage.[4] As a general reason why disobedience to God brings about children's death, it is stated that the young and

[1] Erubin 100*b*.
[2] Sabb. 89*b*.
[3] Gen. R. xx. 15.
[4] Sabbath 32.

pure children are given an opportunity to stand up before God and plead the cause of their parents.[1]

Causes of Disease and of Infantile Mortality.

The following are some of the causes mentioned:

(*a*) *God's punishment for sin.*[2]

(*b*) *Water coming from certain sources,* or which has been allowed to stand overnight, so that a serpent may have drunk out of it and left its venom in it.[3] The Midrash states that so long as the Jews lived in Palestine they drank water out of cisterns and springs, but when they were exiled into Babylon they drank the water of the River Euphrates, which caused many of them to die.[4] The reason why certain waters caused disease was that demons were supposed to be living in them.[5] We now know, of course, that water may contain harmful germs like the *Bacillus typhosus* or the cholera bacillus. It is, therefore, only necessary to substitute the word "germs" for "demons" to explain the deleterious effect of certain waters from a modern scientific standpoint. Maimonides recommends that water should be boiled and drunk when it is cold. The boiling renders the water harmless.[6]

(*c*) *Hæmatogenous Causes.*—Another cause was something connected with the blood. "I, the blood, am the chief cause of all disease," is an expression found in the Talmud.[7]

[1] Sotah 49*a* and Kethuboth 8*b*.
[2] Berachoth 5*b*.
[3] Chulin 105*b*.
[4] Midrash Ps. cxxxvii. 3.
[5] Pessachim 110*a*.
[6] Asthma vii, quoted by Grünwald, *op. cit.*, p. 258.
[7] Baba Bathra 58*b*.

(*d*) *Thermal Causes.*—Heat and cold are, according to R. Chanina ben Chama, potent causes of disease. "Everything," says that Rabbi, "is in the hands of God except the catching of cold and sunstroke, from which one has to guard oneself"; 99 per cent. of deaths occur as the result of cold, "and," Samuel said, "as the result of draughts."[1]

(*e*) *Spread of Infection from Other People.*—This may be either by contact[2] or by means of winds or insects or food. R. Jochanan said: beware of flies coming from patients suffering from catarrh. R. Zera would not sit in a wind if there were such patients in the vicinity, and R. Eliezer would not stay with such people under the same roof; whilst R. Ameh and R. Assi would not eat eggs coming from the same street.[3] (See also effect of winds, Chapter XVII., p. 268.)

(*f*) *Evil-Eye.*—According to Rab and R. Chiya, 99 per cent. of people die as the result of the evil-eye, and only 1 per cent. from natural causes (see Chapter XII., p. 192).

(*g*) *Heredity.*—See Chapter II., p. 21.

(*h*) *Other factors* producing infantile mortality are those responsible for abortion (see Chapter VIII., p. 114).

The Treatment of Disease in General.

The following anecdote is instructive as a recognition of the *vis medicatrix naturæ*:

R. Akiba was once asked to explain why persons afflicted with disease sometimes returned cured from a pilgrimage to the shrine of an idol, although it was

[1] Baba Metzia 107*b*. [2] See Leviticus. [3] Kethuboth 77*b*.

surely powerless. His answer was the following parable: There was a man in a certain city who was so honest and trustworthy that all the inhabitants of the place were in the habit of entrusting deposits to him without witnesses. There was, however, one man who always made his deposits before a witness. One day this distrustful man forgot his caution and gave the other a deposit without a witness. The wife of the trusted man attempted to induce him to deny having received the deposit, as a punishment for his suspicion; but the husband said: "Shall I deny my rectitude because this fool acts in an unseemly fashion?" Thus it is with the sufferings inflicted by Heaven upon man, which have a day and hour appointed for their end. If it happens that a man goes on that day to the idol's shrine, the sufferings are tempted not to leave him, but they say: "Shall we not fulfil our obligation to leave this fool, although he has behaved with folly?"[1]

In a family in which several children have died, it is the custom in Eastern Europe for the mother, before she gives birth to another child, to go to an old man whose children, and even grandchildren, are all alive, and to "sell" him her unborn child for a certain sum which the old man agrees to pay. The old man is then called the grandfather of the child. The name given to the child under such circumstances is one suggestive of old age—*e.g.* Alter (old man) or Alte (old woman), Zeidel (little grandfather), Bobel (little grandmother).

Again, in cases of children dangerously ill it is customary to change their name, in the hope of deceiving the Angel of Death, who summons persons by name. This custom dates from the time of the Talmud.[2] One

[1] Ab. Zarah 55*a*.

[2] R. H. 17*a*.

of the names given in such cases is the appropriate one of Chayim (or Vivian), which means life (see Chapter XIV.).

Isolation and **disinfection** in cases of infectious disease are fully described in the Bible.[1] Indeed, Moses is the first sanitarian to have introduced these useful methods of preventing spread of infection.[2]

Other Therapeutic Means.

(1) **Psychotherapy.**—(*a*) *Charming away*—*e.g.*, for malaria of the quotidian and tertian types,[3] epilepsy,[4] quinsy,[5] etc. This method is also mentioned by Pliny—*e.g.*, against fatty tumour,[6] by Homer, for bleeding,[7] as well as by other contemporary writers. It has survived in the Ghetto to the present day, and some charmers (mainly old women) claim to cure anything, from a dislocation to cancer. Some of the more enterprising wonder rabbis of the Chasidim in certain parts of the world (see p. 19) still occupy themselves with the exorcism of evil spirits, and no doubt in certain cases of functional nervous disease they sometimes succeed in effecting a cure (see p. 394).

[1] Lev. xiii.-xv.

[2] Fumigation by means of sulphur, which is nowadays used for disinfecting rooms after infectious diseases, is referred to by Homer in the "Odyssey," book xxii. 481 as follows:

"'Bring sulphur straight, and fire' (the monarch cries),
She hears, and at the word obedient flies.
With fire and sulphur, cure of noxious fumes,
He purged the walls and blood-polluted rooms."

Quoted by Berdoe, "The Origin and Growth of the Healing Act," London, 1893, p. 154.

[3] Sabbath 66*b* and 67*a*. [4] *Ibid.* [5] Abodah Zara 27*b*.

[6] Pliny xxvi. 60. [7] "Odyssey" xix. 475.

(*b*) *Amulets.*—See pp. 114 and 118.

(*c*) *Suggestion.*—See p. 105, "Treatment of Longing by Suggestion." A method of inducing *hypnosis* is mentioned in the Talmud, where it is stated that the hand applied to the forehead induces sleep."[1]

(2) **Balneotherapy and Hydrotherapy.**—The use of water for therapeutic purposes is mentioned in the Old Testament, where it is stated that Naaman, who suffered from skin disease, "dipped himself seven times in the Jordan" and was cured.[2] In the New Testament a case of congenital blindness is said to have been cured by washing in the River Siloa.[3] Examples of medication by means of mineral waters in Talmudic times have already been given on p. 270. In fact, the Talmud mentions a special season (between Easter and Whitsun) during which people used to go to the spas to take the waters or mudbaths. The cure lasted twenty-one days.[4]

(3) **Climotherapy.**—See p. 267.

(4) **Phototherapy.**—See pp. 266, 267.

(5) **Drug Treatment.**—See below under the various diseases. A collection of prescriptions, forming more or less a Pharmacopœia, is given in Gittin 69*b*.

(6) **Surgical Treatment.**—In addition to the treatment of dislocation,[5] of fractures (by means of splints),[6] and the application of orthopædic appliances,[7] many minor as well as major operations were performed. The following are some of them: Venesection (see p. 377), lancing of abscesses,[8] plastic operations for im-

[1] Pessachim 112*a*.
[2] 2 Kings v. 14.
[3] St. John ix. 7.
[4] Sabbath 147*b*.
[5] Abodah Zara 29.
[6] Sabbath 66*b*.
[7] Sabbath 65*b* and 66*a*.
[8] Abodah Zara 28*a*.

perforate anus and for hypospadias (see p. 201), amputations,[1] tracheotomy or intubation (see p. 377), operations on the brain,[2] hysterectomy (see p. 376), Cæsarean section (*q.v.*), and splenectomy,[3] as well as other abdominal operations.[4] As regards cerebral surgery, the Talmud mentions a special kind of liquid which when poured on the head softened the cranial bones to such an extent as to render it possible to lift them off the brain;[5] but trephining was also practised, since a trephine (*Makdëach*) is mentioned in the Mishna.[6] Extirpation of the spleen was performed for the purpose of rendering a youth light of foot.[7] Pliny also speaks of the spleen as an organ which hinders swift runners.[8] It seems to me that a reasonable explanation for that extraordinary theory is to be found in the fact that malaria was common at that time, and ague-cake spleens, which we know may attain a weight of as much as ten pounds, must certainly have "hindered swift runners." Another condition for which a writer of the third century (Q. Serenus Samonicus) recommended extirpation of the spleen was constant senseless laughter.[9] That the spleen is concerned with laughter was also believed by the Talmudic rabbis.[10] There is no mention of the hæmatopoietic function of the spleen, or of splenectomy for anæmic or leukæmic conditions.

The operations were performed under *anæsthetics*, local[11] or general[12]. The *operating-theatre*, like the most

[1] Kerithoth 16*b*, and Semachoth iv. 28.
[2] Kethuboth 77*b*.
[3] Sanhedrin 21*b* and Abodah Zara 44*a*.
[4] Baba Metzia 83*b*.
[5] Kethuboth 77*b*.
[6] Oholoth ii. 3.
[7] Sanhedrin 21*b* and Abodah Zara 44*a*.
[8] Pliny xxvi. 83.
[9] See Preuss, *op. cit.*, p. 112.
[10] Berachoth 61*b*.
[11] Baba Kama 80*b*.
[12] Baba Metzia 83*b*.

modern operating theatre, had marble walls, or walls seven bricks deep.[1] The surgeon wore an *operating gown.*[2] All air was excluded from the wound to ensure *asepsis*, as exposure to air retards the healing of the wound.[3]

(7) **Visiting the Sick.**—"He who visits the sick," said R. Acha bar Chanina, "takes away $\frac{1}{60}$ of his illness." "Then," said his listeners, "let sixty people visit him together and the patient will at once be able to leave his bed and go out." But R. Acha replied that what he meant was that each one took away $\frac{1}{60}$ of what is left.[4] Moreover, this only holds good if the visitor loves the patient as himself.[5]

The Use of Vaccines and Sera from the Jewish Point of View.

It is hardly necessary to mention that no reference is found in Jewish literature to such recent methods of treatment as the use of vaccines and sera, but it is interesting to observe that the Jewish law, which, as we have already seen (Chapter XX., p. 353), laid down such very stringent measures against cruelty to animals, enjoins that this latter precept may be ignored when the infliction of pain is necessary for medical purposes. If, for instance, a quill is required for therapeutic purposes, it may be plucked out from a living fowl without paying any heed to the pain caused to the animal.[6] This, which is a direct challenge to anti-vivisectionists of all shades of opinion, would seem to be an encouragement to the use of antitoxin and other measures obtained by means

[1] Baba Metzia 83*b*, and Kethuboth 77*b*.
[2] Kelim xxvi. 5.
[3] Chulin 4*b*.
[4] Nedarim 39*b*.
[5] Lev. R. xxxiv. 2.
[6] Eben Haëzer v. 14.

of experiments on animals. Indeed, several vivisection experiments are mentioned in the Talmud.

The two celebrated vivisectionists of the Talmud are R. Assi and R. Simon ben Chalafta. Thus, it is related of R. Simon ben Chalafta, who was an experimental pathologist, that on one occasion he wanted to test the truth of R. Judah's statement, to the effect that a fowl deprived of its feathers is *t^erepha* (*i.e.*, unfit for human consumption), because it cannot live. He took such a fowl, wrapped it up in a warm cloth, and put it in an incubator, when a new crop of feathers grew, thus proving that such a fowl can live, and is therefore *kosher* (*i.e.*, fit for consumption).[1]

In fact, many of the dietary laws were based on vivisection experiments. A wound of the kidneys, for instance, was pronounced not to render an animal *t^erepha*, because by proper care such an animal may be kept alive.[2] Again, an animal in which the uterus was removed was pronounced to be *kosher*, because Thadus the physician reported that the Egyptians were in the habit of performing hysterectomy on animals which they sold abroad, in order that they might not propagate the species.[3]

Some of the Diseases of Childhood.

The most important infantile disease in Talmudic times was **ascara**. It was so common and fatal that people used to fast every Wednesday in the week in supplication for the non-occurrence of this disease.[4] Slander is mentioned as one of its causes.[5] From the

[1] Chulin 57*b*.
[2] *Ibid.*, 54.
[3] Bechoroth 28*b* and Sanhedrin 93*a*.
[4] Taanith 27*b*.
[5] Sabbath 33*a*.

description given of this disease, there seems to be very little doubt that it was the same as the modern laryngeal diphtheria or croup. This disease generally sets in at night.[1] It begins with vomiting, and ends with trouble in the throat,[2] killing the child by suffocation.[3] Death caused by ascara is "the most painful of all the 903 modes of death."[4]

Kohut[5] believes that the disease was scarlet fever, but the mass of evidence seems to be in favour of its identity with croup, which is known to have been very prevalent in Syria at that time (about A.D. 200).[6]

Prevention.—As a prophylactic against the disease, it was recommended to eat lentils once a month, to take salt with each meal, and to drink water after each

Galen, Pliny, Hippocrates, and others, speak of the value of lentils in the treatment of ulcerations of the mouth.

Treatment.—The doctors of the Talmud were not agreed regarding the value of venesection in the treatment of this trouble.[8] It is worthy of note that, although tracheotomy (or possibly intubation) was described in the case of a lamb suffering from a wound of the neck,[9] this operation is nowhere mentioned as having been performed in cases of diphtheria.

I have come across a case of diphtheria in the Jewish Ghetto in London where a mother gave her child its own urine to drink. This therapeutic measure, which has been handed down from generation to generation, is

[1] Sotah 35*a*. [2] *Ibid.* [3] Lev. R. xviii. 4.
[4] Berachoth 8*a*. [5] Aruch Completum.
[6] Aretæus i. 9, quoted by Preuss, *op. cit.*, p. 180.
[7] Berachoth 40*a*. [8] Yoma 84*a*. [9] Chulin 57*b*.

interesting from the point of view of the modern antitoxin treatment, since it is possible that the urine, which of course comes from the blood, contains the diphtheritic antitoxin.

The following diseases occurring in children are also mentioned in the Talmud:

Tonsillitis and Quinsy.—The treatment in the early stages is to suck a preparation made of pyrethrum wood and other vegetables. In order to bring the tonsillar abscess to a head, a mixture of bran, linseed, and hops, was held in the mouth. When the abscess has burst, it is recommended to insufflate the powdered stones of unripe dates by means of a tube.[1]

Earache was treated by the instillation into the ear of the juice of roasted kidneys of goats.[2]

Scurvy.—The Talmud speaks of a disease called *tzaphidna*, which from the description would seem to correspond to scurvy. It is characterized by bleeding from the gums when eating. It was believed to be caused by, amongst other things, the eating of very cold wheat food, and was treated by means of a mixture consisting of dough, olive-oil, and salt, or by touching the gums with goose fat applied by means of a goose quill.[3]

Epistaxis (bleeding from the nose).—To stop the bleeding, plug the nose with a piece of material soaked in a special styptic made of the ashes of saffron, palm branches, and vinegar. If that is not sufficient, pour cold water over the patient, and say: "As this water finishes, so let the blood-flow finish."[4]

Diseases of the Spleen.—These are described in several places, but nowhere is there any mention made

[1] Gittin 69*a*. [2] *Ibid.*, Aboda Zara 28*b*.
[3] Ab. Zarah 28*a* and Yoma 84*a*. [4] Gittin 69*a*.

of anæmic or leukæmic symptoms in connection with them. Remedies which are a combination of Psychotherapy and homœopathy are given.[1] "An excellent remedy for the spleen" is said by Marcellus Empiricus (who lived in the fourth century)[2] to have been discovered by "the Patriarch R. Gamliel" (who died about A.D. 200). The remedy is not mentioned in the Talmud.

Hydrophobia.—The symptoms of rabies in a dog are very minutely described. A rabid dog is to be destroyed at a distance by means of an arrow, for a bite from such a dog is exceedingly dangerous, and one of the remedies for such an accident was to feed the patient with the left lobe of the liver of the same dog,[3] a method of treatment which is of great interest from the point of view of the modern Pasteur treatment of hydrophobia. This treatment was specially advocated by R. Mathia ben Cheresh, but was not believed in by other Rabbis, although R. Judah the Prince applied this remedy in the case of one of his slaves.[4]

Intestinal Worms are mentioned many times. Garlic is mentioned as an *Anthelmintic* (among other remedies).[5]

The Sting of a Hornet was said to cause death in infants under one year old, and the remedy for it was to administer the moss of a palm-tree pounded in water.[6] Another remedy (homœopathic) was to lay on the wound some bruised flies[7] or the urine of an infant forty days old.[8] The patient must also be guarded against

[1] Gittin 69*b*.
[2] De Medicam. xxiii. 77.
[3] Yoma 84*a*.
[4] Jer. Yoma viii.
[5] Baba Kama 82*a*. See also Gittin 69*b*.
[6] Kethuboth 50*a*.
[7] Sabbath 77*b*.
[8] *Ibid.*, 109*b*.

cold.[1] The dread of the sting of a hornet gave rise to the proverb "Neither thy sting nor thy honey."[2] Public prayers for the destruction of the hornet were also ordered.[3]

The treatment of an **umbilical hernia** by means of a special **truss** is also mentioned.[4]

Smallpox.—In the Middle Ages, Jews died in great numbers from smallpox (see p. 383). It is worthy of notice that Dr. Leon Hirschel, in a work printed in Berlin in 1770, strongly advocated smallpox inoculation, and Rabbi Abraham Nansich wrote a Hebrew pamphlet in 1785[5] to prove its religious lawfulness; and that, when Jenner discovered vaccination as a protection against the disease, the Rabbis hailed the discovery with joy. "The Cabbalist Buzagli disputed Dr. Jenner's discovery, but approved of vaccination. Rabbi Israel Lipschutz declared that the doctor acquired salvation by his new remedy."[6] R. Simeon, a doctor in Cracow, in a Hebrew brochure entitled *T'rufa Chadasha* (The New Remedy), printed in 1804, urged the Jews to have all their children vaccinated.[7] This, by the way, should be a sufficient answer to some anti-vaccinationists who are much exercised to understand how the practice of vaccination by means of, as they say, "diseased animal matter" can be reconciled with a due observance of the Mosaic code. (See also treatment of hydrophobia, p. 379.) Pinchas Elias[8] urges the Jews to adopt the

[1] Ab. Zarah 28*b*. [2] Tanchuma Balak 6. [3] Taanith 14*a*.
[4] Sabbath 66*b*; compare Rashi and Aruch under § 110.
[5] "Aleh T'rufa," London, 1785.
[6] Schechter, "Studies in Judaism," p. 360.
[7] Pinchas Elias, "Sefer Ha'bereth," 1807, p. 77*b*, col. 2.
[8] *Ibid.*, 78*a*, col. 2.

operation, and strongly defends it on religious grounds, since not only is the operation safe, but neglect to perform it is equal to manslaughter. It is also further worth mentioning, in this connection, how eager Jews are, as a whole, to carry out any operation on their children that has a hygienic object behind it. Circumcision, which is a considerably severer operation than vaccination (although the mortality even from that operation is practically *nil*), claims very few, if any, "conscientious objectors." The same R. Simeon mentions that he performed vaccination on many hundreds of children without any bad results, but, on the contrary, they all grew up healthy and strong.

Additional means of fortifying the body against smallpox—*e.g.*, exercise in the open air—disinfection after contact with the patient, etc., were also mentioned by Dr. Hirschel.

Convulsions.—A remedy for convulsions in some modern Ghettos is to break a pot in front of the child to drive away the demon of convulsions. In another part of the world it is the custom to prick the child's finger with a needle, suck blood therefrom, spit thrice, and then spit some of the mother's blood in the child's mouth.[1] In the Jewish Ghetto in London the child is wrapped in a prayer shawl (*talith*).

The Morbidity of the Modern Jewish Child.

Infectious Diseases.—Statistics do not give very uniform results, although most of them show that the Jewish child fares better with regard to measles, diph-

[1] See article Superstition, "Jewish Encyclopædia," vol. xi., p. 600.

theria, and whooping-cough, and slightly worse with regard to scarlet fever.

Thus, Körösi gives the following figures stating the mortality of children under five years of age (per 100,000 children under ten years) from contagious diseases in Budapest during 1886-1890.[1]

	Diph-theria.	*Croup.*	*Scarlet Fever.*	*Measles.*	*Whooping-Cough.*
Catholics	559	265	283	183	97
Protestants ..	509	286	310	196	83
Jews	345	215	316	118	69

On the other hand, Glatter[2] has shown that during 1863, in the same city, the mortality from diphtheria was less among Christians than among Jews—viz., 2·6 per cent. amongst the former, against 4·2 per cent. amongst the latter. Similarly for the United States statistics do not agree. The Census Bulletin No. 19 for 1891 shows that the Jewish children suffer more from diphtheria, although figures collected by Fishberg[3] show the opposite to be the case.

Again, figures for various towns in Galicia and Austria show that in some places the Jewish and in others the Christian children are at a disadvantage in respect of their mortality from diphtheria.

This lack of uniformity points to the conclusion that

[1] Körösi, "Einfluss der Confession, etc., auf die Todesursachen," p. 11, Berlin, 1898.

[2] "Das Rassenmoment in seinem Einfluss auf Erkrankungen," *Vierteljahresschrift für Gerichtliche Medicin*, vol. xxv., pp. 32-45, 1864.

[3] See Fishberg, *op. cit.*, p. 283.

any differences with regard to the liability of the Jewish children to these infectious diseases are not due to any inherent racial peculiarity, but are due to other causes. In some cases, indeed, any differences existing between Jewish and other children may be apparent rather than real. For example, in the case of the immigrant Jewish population in New York during 1897-1899, there was an excessive proportion of adult males and a smaller proportion of children than among the general population, and therefore, taking the mortality per 100,000 population, we should expect *a priori* to find a smaller death-rate amongst Jewish children.

Where there is a real difference in favour of Jewish children, one must take into account the fact that Jewish children are almost universally breast-fed, and are tainted in lesser degree with diseases acquired by their parents in the worship of Venus and Bacchus; in these ways they are endowed with a constitution better able to bear disease than the Christian children. Moreover, Jewish mothers bestow far greater general care on their children, and fly to the doctor for almost any trifling infantile ailment.

Smallpox.—Schwartz[1] finds that Jews died in great numbers from smallpox in Vienna between 1648 and 1669. More recent statistics, however, show that the Jewish children die much less from this disease than non-Jews. Thus, Cohn[2] gives the mortality figures from smallpox in Posen during 1856-1865 as follows: Catholics, 31·3; Protestants, 22·6; Jews, 9—per 1,000

[1] "Zur Mortalitätsstatestik der Wiener Ghettobewohner," 1648-1669, *Zeitschr. f. Demogr. und Stat. der Juden*, pp. 44-61, 1910.

[2] "Sterblichkeit verhaltnisse der Stadt Posen," in *Vierteljahrsschrift f. Gerichtl. Med.*, 1869, p. 284.

deaths from all causes. This, again, is not accounted for by any racial immunity possessed by the Jewish child, but is due to the more ready submission of Jews to vaccination. Thus, it was pointed out, before the Royal Commission on Alien Immigration, that Whitechapel in London and Cheetham in Manchester are respectively the best-vaccinated districts in the two cities. The vaccination figures for Whitechapel for 1910 show that only about 3 per cent. of the total children born escape vaccination in virtue of the "conscience clause." As a matter of fact, in places where vaccination of the general child population is not greatly neglected, there is no difference in smallpox mortality between Jews and non-Jews. Thus, in Cracow and Lemberg the mortality from smallpox was the same among Jews and non-Jews. On the other hand, E. W. J. Masterman[1] found that in Jerusalem, where the majority of the younger generation are vaccinated (no free vaccination being offered by the State), smallpox is very prevalent and fatal among the Jews, except in the case of school-children. These, in spite of living in the very midst of infection, have been quite free since vaccination of all has been insisted upon. The better vaccinal condition of the Jews of New York rendered them almost immune from smallpox during the 1900-03 epidemic.

Chicken-Pox.—This extremely contagious disease is as common in Jewish children as it is in Christian. Recently, vaccination against this disease by means of matter taken from chicken-pox vesicles has been tried, with very good results; and Dr. Sophie Rabinof, Medical Officer to the Hebrew Infant's Asylum of New York,

[1] Masterman, "Smallpox Epidemic in Jerusalem," *St. Bartholomew's Hospital Gazette*, November, 1900.

tried the effects of vaccination in the Jewish infants under her care, with the following striking results: During an epidemic of that disease, out of 142 *susceptible* children (*i.e.*, those that had not previously had the disease), 114, or 75 per cent., developed chicken-pox; whilst in seventy-six vaccinated children only six cases occurred—*i.e.*, 8 per cent. Of these six, two occurred one day after vaccination, two seven days later, one nine days later, and one ten days later—*i.e.*, all these occurred within the incubation period of the disease, which is sixteen days.[1]

Infantile Diarrhœa.—Körösi[2] gives the following figures for Budapest, 1886-1890, showing that Jewish children are less liable to the disease in spite of insanitary surroundings, overcrowding, and badly ventilated dwellings:

Catholics	4,143	per 100,000 children under five.
Protestants ..	3,498	
Jews	1,442	

Similar results were given before the Royal Commission on Alien Immigration. In my own practice, although one sees a fair number of cases of diarrhœa, one meets with very few deaths.

Rickets is also less common among Jewish children. Dr. Hall stated in 1904, before the Interdepartmental Committee on Physical Deterioration in London, that in Leeds 50 per cent. of poor Christian school-children are affected with rickets, against 7 per cent. poor Jewish

[1] Sophie Rabinof, "Prophylactic Vaccination for Varicella," *Archives of Pediatrics*, 1915; reprinted in *The Medical Officer* for January 15, 1916.

[2] *Loc. cit.*, p. 10.

school-children. This has been rightly attributed by Drs. Eustace Smith and Eichholtz to the care bestowed by mothers on their children.[1] Rickets is not mentioned in any of the ancient Jewish writings, but a skeleton showing rickety curvature of the spine was discovered by Flinders Petrie at the Pyramid of Medum, and is now to be found in the Museum of the Royal College of Surgeons.[2]

Tuberculous Diseases.—Pulmonary, abdominal, and surgical tuberculosis are rather rare among Jewish children. For every 100 deaths from tuberculosis amongst Jewish children for the age-periods 1 to 2 years and 6 to 10 years there were in Cracow 545 and 743 deaths respectively of non-Jewish children.[3] Meningitis has in my own practice been rather common.

Hæmophilia is said to be more common in Jewish children. This frequency may be apparent only, as, on account of circumcision, it is possibly detected earlier in them.

Eye Diseases.—Trachoma is said to be more common among Jewish children. This is true if one compares foreign Jewish children with English Christian children, but I believe it is not true when comparison is made between Russian and Polish Jews and Christians.

Retinitis Pigmentosa is more common among Jews, and has been attributed to consanguinity of marriage, although the evidence in favour of such a theory is rather scanty (see p. 392).

Defective Vision and Colour-Blindness are common.

[1] *Jewish Chronicle*, August 19, 1904.

[2] "Ten Years' Digging in Egypt," p. 146.

[3] See W. M. Feldman, "Tuberculosis and the Jew," in the *Tuberculosis Year-Book*, vol. i., 1913, pp. 48-54.

Of 142 Jewish boys at Whitechapel Foundation School, 49 had defective vision (less than $\frac{6}{12}$), whilst of 37 Christian children only 7 had defective vision. Colour-blindness was found in 4·9 per cent. of Jewish boys and 3·1 per cent. of Jewish girls, the figures for Christian boys and girls being 3·5 and 0·4 per cent. respectively.[1]

It is believed by Jacobs that this may be the cause of the scarcity of great painters among Jews, but Fishberg does not agree with this view, for, as he points out, a large number of sculptors and painters of the highest eminence have sprung up amongst them within the last century. Dr. Edridge Green tells me that colour-blindness is common in musicians. This may be due to the fact that many musicians are Jews. The commonest defect of vision is myopia, with or without astigmatism.

Mental Affections.—*Amaurotic family idiocy* is preponderatingly common in Jewish children. According to Hoppe, quoted by Dr. Theilhaber,[2] out of 34 families containing 70 cases of this affection, 34 families were Jewish. It is not due to consanguinity of marriage. *Mongolism* is also very common, and so is *Dementia præcox*.

Skin Diseases.—Contagious affections, like scabies and favus, are said to be more common among Jews, and psoriasis is decidedly so.

[1] Transact. Ophthalm. Soc., vol. i., p. 198.

[2] Grünwald, *op. cit.*, p. 296.

CHAPTER XXIV

THE CARE OF AFFLICTED CHILDREN

"R. Jehuda said: 'It is bad to have to do with the deaf, the imbecile, and the minor: if they harm you, they are not responsible; but should you harm them, you will have to suffer for it'" (Baba Kama 87*a*).

The Blind.

AMONGST the ancient nations as well as the Jews, in the time of the Bible, the blind, together with the lepers and cripples, were considered a disgrace to the community, and were kept in a colony outside the town. In fact, when David besieged Jerusalem, these outcasts of society were so numerous at the outskirts of the town that he was compelled to take stringent measures against them.[1] The Talmud compared the blind, the leper, and the childless, to the dead.[2]

In spite, however, of the stigma attaching to blindness, or perhaps because of it, special legislation was provided for them. No stumbling-block was allowed to be put in their way,[3] and he who made the blind wander out of the way was cursed.[4] Even the archdemon Ashmodai, when he met a blind wanderer, offered him his services as a guide.[5]

R. Judah the Prince was the first to treat the blind with respect. It is narrated that when he came to a

[1] 2 Sam. v. 6. [2] Ned. 64*b*. [3] Lev. xix. 14.
[4] Deut. xxvii. 17, 18. [5] Gittin 68*b*.

strange town he went to pay his respects to a blind scholar, and the latter blessed him as follows: "Because you have honoured with your presence one who is seen but cannot see, may He who sees but cannot be seen (God) honour you with His presence."[1]

As an example of the wonderful instinctive faculties of the blind, the following story is worth quoting:[2]

A blind Rabbi, Shesheth by name, once mingled in a crowd who came to see the King pass by. Next to him stood a man who said scornfully: "Whole pitchers may go to the well, but of what use are the broken ones?" The Rabbi gently replied: "I shall soon convince you that I can see better than you." When the first procession arrived, the man exclaimed: "The King comes!" "No," said the afflicted Rabbi, "the King has not yet arrived." During the commotion of the second procession the Rabbi again told his impatient neighbour that the King was not coming yet. When, however, a third procession came, unaccompanied by any stir and commotion, the blind man said: "Now for a certainty the King is at hand." When the man asked R. Shesheth how he was able to tell all that, in spite of his blindness, the Rabbi replied: "The earthly kingdom follows the rule of the kingdom of heaven, and it is written:[3] 'The Lord passed by, and a great and strong wind rent the mountains . . . but the Lord was not in the wind; and after the wind an earthquake, but the Lord was not in the earthquake; and after the earthquake a fire, but the Lord was not in the fire; and after the fire a still small voice.' And then Elijah knew the Lord was there." The Talmud further relates how

[1] Chagiga 5*b*.
[2] Berachoth 58*a*.
[3] 1 Kings xix. 11, 12.

the same R. Shesheth instinctively discovered a sharp piece of bone that was put in his soup in order that it might stick in his throat and kill him.[1] We have also seen in Chapter XII., p. 179, that a blind infant was believed to be able to distinguish its own mother's milk by the taste and smell.

Causes of Blindness, and its Prevention.

The following are the causes mentioned as producing blindness:

1. God's punishment for not hearkening unto His voice or observing His commandment.[2] The Talmud narrates a legend about a Rabbi named Nachum Gamzu —that he was totally blind, crippled in both the upper and lower extremities, and a sufferer from intractable skin disease, and when his pupils asked him how it was that a pious man like himself should be so afflicted, he replied: "My sons, I brought all this on myself. One day I went to see my father-in-law, accompanied by three donkeys laden with all kinds of food, drink, and other table luxuries. I passed a beggar who asked me to give him something to eat, and I answered: 'Wait until I alight from my donkey and I will give it to you.' But by that time the poor man expired. I then fell upon his face, and cried: 'Let my eyes, that did not have compassion on thee, become blind, and let my arms and legs be crippled, and my skin be covered with an eruption.'" The pupils then said: "Woe unto us that we should see thee in such a state!" But he replied: "Woe unto me if you had not seen me in such a condition!"[3]

[1] Gittin 67*b*. [2] Deut. xxviii. 28. [3] Taanith 21*a*.

2. Indecent behaviour—*e.g.*, looking at *locum illum* (*i.e.*, the vulva)—may also cause blindness.[1]

3. Venereal disease as a cause of congenital blindness is possibly indicated in the New Testament when Jesus was asked whether a man was born blind because of his own or his parents' sin.[2]

4. Cerebral disease the result of injury to the head is another cause of loss of sight.[3]

5. Irritation of the eye by means of salt of Sodom or other dirt is likely to result in blindness, and hence the necessity for washing the hands after meals,[4] and the saying of R. Muna, that the unwashed hand that touches the eyes in the morning should be cut off.[5]

6. Uncleanness of the hair is another cause[6] (see also Chapter XVII., p. 261).

He who sees a blind man must offer the following benediction: "Blessed art Thou, O God, the just Judge."[7]

The Comparative Frequency of Blindness among Jews.

A priori one would expect to find blindness comparatively uncommon among Jews, because gonorrhœal ophthalmia neonatorum (due to infection from the maternal passages), which is responsible for between 30 to 50 per cent. of blindness, is very rare in Jewish babies. For although gonorrhœa is quite common among Jewish males (see Chapter XIII., p. 213), it is very rarely that an infected Jewish husband will give the disease to his wife. Statistics, however, show that

[1] Nedarim 20*a*. [2] S. John ix. 2. [3] Sotah 13*a*.
[4] Erubin 17*b*. [5] Sabbath 108*b*.
[6] Nedarim 81*a* and Pess. 111*b*. [7] Berachoth 58*b*.

blindness is considerably more common in Jews than in non-Jews. Thus, in Prussia in 1895 there were 104·8 Jewish as against 65·3 Christian blind per 100,000 population,[1] and in Bavaria, according to Dr. George Mayr, the figures were: Protestants, 78·4; Catholics, 82·7; Jews, 138·1—per 100,000 population.[2] Similar proportions are given for congenital blindness. It is not easy to explain this phenomenon. Consanguinity of marriage has by some been held to be responsible for it, but, as we have already seen in Chapter III., near kinship in marriage has in itself no evil effect on the offspring. The excessive occurrence of glaucoma amongst Jews will explain the greater frequency of loss of sight in Jews past middle age, but will not account for the same phenomenon amongst children.

Trachoma has by some been credited as a cause; but whilst it is true that this disease is much more common amongst foreign Jewish than among English Christian children, it is, I believe, quite as common amongst the poor and badly nourished Russian and Polish Christian children as it is amongst the same class of Russian and Polish Jewish children. If, as it has been alleged, retinitis pigmentosa is common in Jewish children, it would to some extent explain the greater frequency of blindness amongst them; but it would still remain an open question why that particular disease should be more common amongst them. Here again consanguinity of marriage is not a satisfactory answer.[3]

[1] See Fishberg, *op. cit.*, p. 321.

[2] "Jewish Encyclopædia," vol. iii., p. 249.

[3] See paper on "Retinitis Pigmentosa" by E. Nettleship.

Deaf-Mutes.

Deaf-mutes were in ancient times considered by all other nations as helpless idiots, and their affliction was taken as a punishment for their parents' sins.

The Romans, for instance, used to drown them in the Tiber. Among the Jews, however, although they were classed with minors and idiots for legal purposes, they were yet afforded a great deal of protection. "Curse not one who is deaf,"[1] was the command that Moses gave to the Jews; for "who gave man a mouth? or who makes one deaf or dumb or blind? Not I?" was the question God asked. (See also Prov. xxxi. 8.) Deaf-mutes were regarded as irresponsible persons in the eyes of the law.

1. They were not competent as witnesses except in the case of an *agunah* (*i.e.*, a woman the whereabouts of whose husband are unknown), where the testimony of a deaf-mute stating that the husband is dead was sufficient to warrant her remarriage.[2]

The ancient Roman law also held a deaf-mute incompetent as a witness until Justinian limited such restriction only to those born deaf.

2. Injury caused by a deaf-mute or an animal belonging to him was not punishable, although injury caused to a deaf-mute was punishable. If the deaf-mute's animal was proved to be mischievous, a trustee was appointed for it.[3]

3. According to Jewish law, the uninterrupted possession of real estate for three years established one's claim to the property, but this did not apply to the

[1] Lev xix. 14. [2] Choshen Mishpat 96, 5.
[3] *Ibid.*, 406, 5; also B. K. 39*a*.

estate of deaf-mutes or when the deaf-mute was the holder.[1]

4. Dumb persons cannot give or take *chalitzah*, because they cannot say, "I do not want to marry you," or "She does not want to marry me."[2]

5. Although a marriage is not valid until the bridegroom pronounces a certain formula in the presence of witnesses, yet in the case of deaf-mutes it was considered sufficient if he signified his willingness to marry the bride by means of gestures. The same applied in cases of divorce.[3]

The Jews recognized that deaf-mutes can by proper education be made useful members of society, for "wisdom opens the mouth of the dumb."[4] The Talmud also says that deaf-mutes should not be put into the same category as idiots or other morally irresponsible persons, since they are capable of being instructed.

The following incident is narrated in support of this statement: There were two dumb boys who lived near R. Judah the Prince, and whenever the Rabbi went to the Academy they followed him, and took their seats opposite him. When he expounded his lesson to the students, they moved their heads and lips as if they followed the things that the Rabbi said. R. Judah became so interested in them that he prayed for them, and they were cured from their defect. It was found that they had assimilated all the instruction.[5]

There is nothing improbable in this story if we assume that the cases were ones of hysterical dumbness (see p. 372).

[1] Choshen Mishpat 149, 18.
[2] Maimonides, Yibum Uchalitzah iv.
[3] Yebam. xiv. 1.
[4] Apocrypha, Book of Wisdom x. 21.
[5] Chagiga 3*a*.

The oldest case of hysterical dumbness is that of the son of Crœsus, who was cured of his affliction when he saw that a Persian attacked his father with the intention to kill him. The sudden fright made him shout out: "Man, kill not Crœsus!" This was the first time he spoke; after that he spoke all his life.[1]

A case of hysterical deaf-mutism cured by suggestion is recorded in the New Testament, where Jesus put His fingers into the afflicted person's ears, "spit, and touched his tongue; and looking up to heaven, He sighed, and saith unto him, Ephphatha, that is, Be opened, and his ears were opened, and the bond of his tongue was loosened, and he spake plain."[2]

Causes of Deafness.

1. **Congenital Deafness** is due to talking of the parents during coitus.[3]

2. **Acquired Deafness** may be due to injury, such as a severe blow on the ear,[4] loud noise,[5] or touching the ear with an unwashed hand.

The Comparative Frequency of Deaf-Mutism among Jewish Children.

In an investigation of the relative frequency with which deaf-mutism occurs in Jewish children, it is necessary to remember that there are two forms of deafness in children—viz., congenital and acquired. Statistics for both forms taken together show that

[1] Herodotus, i. 85. [2] S. Mark. vii. 32-35. [3] Nedarim 20*a*.
[4] B. Kama 98*a*. [5] Tosefta B. Kama vi. 16.

deafness in general is more frequent in Jews than in Christians. Thus, in Germany in 1902 there were—

Protestants	..	83	deaf-mutes per 100,000 population.
Catholics	.. ..	92	
Jews	.. ..	136	

Similar figures are given in the census for Bavaria for the same year.[1]

No figures showing the relative frequency of true congenital deafness in Jewish children are, I believe, available, although deafness dating from early infancy has been found in Prussia, in 1895, to be only slightly more common among Jewish than among non-Jewish children (57·5 per cent. as against 47 per cent. of the respective total numbers of deaf-mutes). Whilst these figures are inconclusive as regards the congenital variety, they leave no room for doubt that the adventitious kind is considerably more common among Jews than among non-Jews. It is probable that an explanation for this phenomenon is to be found in the fact that the fatality rate of the chief infantile infectious ailments of which this condition is a sequel (viz., measles, diphtheria, and scarlet fever) is not so high among Jewish as among non-Jewish children, and therefore a larger proportion of such children survive with this affliction. Also adenoids, which are the most frequent predisposing cause of deafness, are probably more common in Jewish children.

As regards congenital deafness, the researches of Dr. Kerr Love have shown that among these cases there are at least two distinct classes—viz., those in whom the condition occurs sporadically without any hereditary

[1] See Fishberg, *op. cit.*

tendency, and those in whom a distinct hereditary tendency can be discovered (some near or remote relative either in the same or past generation being similarly afflicted). The first class is largely due to congenital syphilis, and the second has been shown to be a true Mendelian recessive character.

On theoretical grounds, therefore, we should expect the sporadic kind of congenital deaf-mutism to be less common in Jewish children (see statistics of syphilis in Chapter XIII., p. 213), whilst the true hereditary form should occur more frequently among Jews, on account of the greater frequency of cousin marriages among them. For although it is true, as we have seen in Chapter III., that consanguinity of marriage has not in itself any evil effect on the offspring, yet if both parents should happen to be impure dominants—that is to say, if they carry the recessive character of deafness in them, although they may themselves be hearing—the offspring would on the Mendelian hypothesis occur in the ratio of one pure dominant (hearing), two impure dominants (also hearing), and one recessive (deaf-mute), breeding true; *i.e.*, three hearing and one deaf. (See Chapter III.)

Indeed, Macleod Yearsly has shown that, out of 309 families of congenitally deaf cases, cousin marriages occurred in 22 (or 7·08 per cent.), whilst in 592 families of acquired-deaf children such relationship was present only in two cases (or 0·32 per cent.).[1]

[1] "The Causes leading to Educational Deafness in Children," *Lancet*, July 20 and 27, 1912; see also *Eugenics Review*, July, 1914, pp. 117-129.

Epilepsy.

The **causes** of epilepsy were—(1) Immodesty or debility of the parents during the begetting of the child;[1] (2) heredity (see Chapter II., p. 21); (3) evil spirits.[2]

Frequency.—In spite of their neurotic predisposition, epilepsy is comparatively uncommon amongst Jews. This is to be accounted for by the comparative rarity of the exciting causes—viz., alcoholism and syphilis.

The Legal and Religious Position of Epileptics.

An epileptic is not eligible for priesthood, even if he only had one attack in his life.[3] If a man married a woman who turned out to be an epileptic, the marriage is null and void.[4] Maimonides, basing his opinion on the Talmud,[5] declares that "an epileptic is not valid as a witness except when one can be certain that he was in full possession of his senses."[6]

As a preventive measure against this disease, it was recommended to wear an amulet either on a chain or in a signet ring.[7]

The Comparative Frequency of Physical and Mental Defectives amongst Jews.

According to Fishberg, the excessive proportion of physically and mentally deficient children amongst Jews is undoubted. This is due to the encouragement given

[1] Kallah R. i.; see also Chapter I., p. 15.
[2] S. Luke ix. 39.
[3] Bechoroth vii. 5.
[4] Kethuboth 77*a*.
[5] *Ibid.*, 20*a*.
[6] Eduth. ix. 9.
[7] Tosefta Sabbath iv. 9.

in the Ghetto for such defectives to marry and propagate their kind. Funds are raised to marry an epileptic to a blind girl, an idiot to a deaf-mute, etc. (see Chapter IV., p. 57). In Western Europe and America, where such practices have been abandoned, the Jewish birth-rate has decreased in quantity, but has improved in quality.

Care of Orphans.

Orphans are considered as helpless beings; God Himself is termed the Father of the fatherless.[1] He who oppresses orphans is to expect the severest punishment.[2] Job speaks of the wicked who are not afraid to commit injustice even towards orphans.

He who brings up an orphan until marriage is one of whom the verse says that he "does righteousness at all times."[3] He is also regarded as the orphan's father.[4] Orphans must be treated very gently and kindly, and their money must be taken greater care of than one's own money.[5]

Orphans, however rich, are exempted from taxation for charitable but not for civil purposes (such as safe-guarding the city in which they live).[6]

A female orphan has the right, even when still a minor, to protest against her marriage. A female orphan has priority over a male orphan in regard to both support and the provisions for marriage.[7] He who gives an orphan girl in marriage should provide her with not less than 50 zuzim as a dowry.[8] When a male orphan wishes to marry with the assistance of charity,

[1] Ps. lxviii. 6. [2] Exod. xxii. 21-23. [3] Ps. cvi. 3. Keth. 50*a*.
[4] Sanhedrin 19*b*. [5] Maimonides, Yad Deot vi.
[6] B. B. 8*a*. [7] Keth. 67*a*. [8] *Ibid.*, vi. 5, 6.

the trustees of the fund have to find a house for him, furnish it suitably, and then find him a wife.[1]

The Midrash says that God showed Moses all the treasures that are stored in heaven for the enjoyment of the righteous; and when Moses asked to whom would be given one particularly valuable treasure, the answer was, "To him who brings up orphans."[2]

R. Eliezer of Bartutha was a very charitable man. One day, as he went out to buy the wedding trousseau for his daughter, he met some persons who collected money for an orphaned couple, and he insisted upon their taking the money that he intended to spend on his daughter. He was left with only one zuz, with which he bought wheat and put it away in the barn. When his wife asked his daughter what her father bought her, the latter replied: "All that my father bought he put away in the barn." When she opened the barn they found it to be full of wheat to overflowing.[3]

A similar story is told in the Midrash: A man who went out to buy something for his children met a collector for orphans, to whom he gave all the money he had on him. As he was ashamed to come home empty-handed, he found his way into the synagogue, where the children were playing with lemons. He filled his bag with some of these lemons, and he went away to the city where the King lived. It happened that the King was very ill, and he dreamed that the only remedy for him would be the lemons with which the Jewish children played in the synagogue. A search was therefore instituted all over the town, as well as on the ships carrying on trade with

[1] Keth. 67*b*.
[2] Midr. R. 2 Moses (Exod.) 45.
[3] Taanith 24*a*.

that town; but the desired article was not found anywhere until they came across that man sitting on his sack. "What have you in the bag?" asked the officials. "I am poor," answered the man, "and I have nothing to sell." They, however, opened the sack, and to their great joy discovered that it contained the article for which they were looking. They took it with them, and brought it to the King, who ate the lemons and became cured of his illness. As a reward the King ordered the poor man's sack to be filled with gold coins.[1]

It is told of the father of Samuel, who was in the habit of taking care of the money entrusted to him by orphans, that he used to put it away in a hole in the ground which was divided into three compartments. The upper and the lower compartments contained his own money, and the middle one contained that of the orphans. His reason for that was that, "should a burglar come, he will find my own money; and should the money rot away on account of contact with the earth, it will again be my own money, and not that of the orphans."[2]

[1] Lev. R. xxxvii. [2] Berachoth 18*b*.

CHAPTER XXV

THE BIOSTATIC AND PHYSICAL CHARACTERS OF THE MODERN JEWISH CHILD

"And the Lord spake unto Moses in the wilderness of Sinai . . . Take ye the sum of all the congregation of the children of Israel after their families, by the house of their fathers, with the number of their names, every male by their polls. . . .

"All that were numbered of the Levites, which Moses and Aaron numbered at the commandment of the Lord, throughout their families, all the males from a month upward, were twenty and two thousand. . . . And all the first-born males . . . from a month old and upward (of the children of Israel) were twenty and two thousand two hundred and three score and thirteen" (Num. i.-iii.).

A. Vital Statistics.

THE outstanding feature in Jewish biostatics is their remarkable degree of increase. According to Biblical statistics (which, however, may not be altogether reliable), seventy Jews migrated to Egypt, and during their 430 years' stay in that land, in spite of adverse circumstances, they increased to a number consisting of 603,550 men over twenty years old, indicating a total population of over 3,000,000 (exclusive of the Levites).[1] The present total Jewish population is 12,000,000. In Prussia the Jewish population increased during 1822-1840 by 34·5 per cent., whilst the Christian population during the same period increased by 28 per cent. only.[2]

As population increases by the excess of births over

[1] Num. i. 46, 47, ii. 32, 33.

[2] J. S. Hough, "Longevity and Biostatic Peculiarities of the Jewish Race," *Medical Record*, 1873, pp. 241-244.

deaths, the great prolificacy of Jews may be due to either of the following causes: (*a*) Very high birth-rate, with a moderate death-rate; (*b*) very low death-rate, with a moderate birth-rate.

Statistics show that the important factor in the case of the Jews is their very low death-rate, especially as regards their infant mortality. As Leroy Beaulieu expressed it, the Jews "bring fewer children into the world, but they bring more of them to maturity."[1]

1. Birth-Rate.

Contrary to the general popular belief, the birth-rate among Jews is lower than that of non-Jews. This is seen from the following table, which compares the Jewish with the Christian birth-rates in various localities per 1,000 population:

Place.	*Time.*	*Jews.*	*Christians.*	*Authority.*
Algeria ..	1844	45·8	36·8	Legoyt, "Immunités," p. 72.
" ..	1878	52·7	32·8	"Ann. Stat.," 1881, p. 580.
Austria ..	1851–57	26·5	38·5	Legoyt, p. 55.
" ..	1861–70	28·0	30·7	Schimmer, "Juden in Oestereich," p. 5.
Berlin ..	1898	16·8	—	"Statist. Jahrb.," p. 73.
Bucharest	1878	29·8	30·7	"Orasului Bucaresci," 1878.
Budapest	1873	37·9	42·8	"Statist. Jahrb.," p. 55.
"	1896	36·4	40·5	"Magyar Stat. Evkonyv," iv. 65.
Bulgaria ..	1891–95	37·58	37·49	"Zeitschr. f. Demogr. u. Statist. der Juden," 1911.
"	1907	32·27	43·85	(ditto, bracketed)
France ..	1855–59	24·9	26·5	Legoyt, p. 58.
Hungary ..	1874	46·9	39·7	Lagneau, "Dénombrement," p. 21.
"	1911	26·9	35·1	"Zeitschr. f. Demogr. u. Statist. der Juden," 1912 and 1913.
Prague ..	1880	26·1	21·9	"Statist. Handb.," p. 25.

[1] Leroy Beaulieu, "Israel among the Nations," p. 155.

Place.	*Time.*	*Jews.*	*Christians.*	*Authority.*
Prussia ..	1824–73	34·7	40·4	"Zeit. Press. Stat.," 1879.
" ..	1878–82	30·3	39·5	Ruppin, "Jahbrücher für National Ökonomie," March, 1902, p. 377.
" ..	1882–92	24·5	38·4	*Ibid.*
" ..	1893–97	22·2	38·1	*Ibid.*
" ..	1911	15·4	29·7	"Zeitschr. f. Demogr. u. Stat. der Juden," 1913.
Rumania ..	1903	32·9	40·14	*Ibid.*, 1911.
" ..	1910	29·33	50·11	*Ibid.*
Russia ..	1867	32·6	50·1	"Mouvement."
" ..	1867–70	32·0	49·5	Bergmann, "Beiträge," p. 75.
" ..	1903	29·13	51·3	"Zeitschr. f. Demogr. u. Stat. der Juden," 1911.
Tuscany ..	1861	27·2	39·0	Legoyt, p. 60.
Vienna ..	1899	22·3	—	"Statist. Jahrb.," p. 48.
Westphalia	1824–73	30·1	36·7	Bergmann, *loc. cit.*

In order to study the causes of this phenomenon, it is necessary to observe that the generally accepted expression for birth-rate as the number of living children born annually per 1,000 population is a very misleading one, because such an expression obviously leads to several errors. In the first place, a population containing a low proportion of women will, *ceteris paribus*, have a lower birth-rate than one in which the proportion of women is high. Again, if there is in a population an excessive proportion of persons of marriageable age, that population's birth-rate is naturally bound to be higher than that of a people in which the opposite condition prevails. Thus, in the case of Whitechapel in London, between 1886 and 1890 the birth-rate rose from 39·9 to 43·3, although the general London birth-rate was falling during that period. This phenomenon

was due to the fact that Whitechapel at that time contained a larger number of recently arrived Jewish immigrants of child-bearing age. Further, in the case of the Jews in general, their smaller infantile mortality gives them a greater number of non-nubile people, thus causing their birth-rate per 1,000 to be smaller than that of other people. Thus, Korosi[1] has shown that in 1881 the percentage of Jews under twenty years old in Budapest was 45, whilst if the same figure held good for 1873 the birth-rate, instead of being 38 per 1,000 population for Jews and 43 for non-Jews (reckoned on the whole population), would have been 69 for Jews and 65 for non-Jews, if reckoned on the adult population alone. Ruppin[2] has, however, shown that in Prussia Jews have a lower birth-rate, even if calculated on the adult population only; and, according to J. S. Billings,[3] per 1,000 women of child-bearing ages (15 to 49) there were 72·87 Jewish as against 82·9 non-Jewish births.

That the low Jewish birth-rate is not a racial character is evident from the fact that it is not a constant figure all over the world, but varies with the birth-rate of the people amongst whom they live; it is high where the general birth-rate is high, and low where the general birth-rate is low, although it is everywhere lower than the birth-rate of their neighbours. It is probable that the cause of the low Jewish birth-rate is to be found in several factors—viz.:

(*a*) The smaller number of marriages among them (see Chapter IV., p. 58).

[1] "Die Hauptstadt Budapest in Jahre 1881."
[2] Conrad's "Jahrbucher," March, 1902.
[3] "Vital Statistics of Jews in United States," Census Bulletin No. 19, 1890.

(*b*) The higher age at which Jews marry, thus shortening the period of fecundity. Marriage is postponed until the man becomes more or less independent.

(*c*) The fact that Jews are town-dwellers, a class of population in whom the fertility is everywhere lower than in a rural population.

(*d*) Another probable cause in the case of Western European and of American Jews is the deliberate limitation of the size of the family for economic reasons —viz., in order that the parents may be in a position to give their children a good education.

It is, however, to be noticed that even in Eastern Europe, where the Jews are strictly orthodox, and therefore not only marry early, but do not restrict the size of their families, the birth-rate among them is smaller than that among their non-Jewish neighbours (when calculated per 1,000 population).

2. Child Mortality.

The following figures show the remarkably low mortality of Jewish children:

INFANT MORTALITY IN BADEN, ACCORDING TO F. J. NEUMANN.[1]

Period of Life.	*Protestants.*		*Catholics.*		*Jews.*	
	1864-70.	1871-73.	1864-70.	1871-73.	1864-70.	1871-73.
First week ..	2·95	2·80	4·37	4·21	2·43	2·32
Second week ..	2·25	2·07	2·75	2·62	1·79	1·33
Third week ..	1·90	2·01	2·68	2·61	1·63	1·29
Fourth week ..	1·16	1·06	1·40	1·28	0·87	0·81
First month ..	8·26	7·93	11·21	10·71	6·73	5·73
First half-year ..	19·54	19·40	22·99	22·79	15·00	13·89
First year ..	25·69	25·25	28·83	28·46	16·88	17·61

[1] Quoted by Fishberg in "Jewish Encyclopædia," article "Mortality," vol. ix., p. 31.

From these figures it is evident that infant mortality among Jews is at all ages considerably less than among non-Jews, and that the chances of surviving the critical first year are much greater among Jewish children.

Similar figures are available for France, Italy, Prussia, and other countries.

THE MORTALITY OF CHILDREN UNDER FIFTEEN YEARS IN THE UNITED STATES.[1]

Birth-Place of Mother.	*Mortality per* 1,000.
Bohemia	82·57
Italy	56·41
United States	54·01
Ireland	50·87
England and Wales	40·53
Hungary	47·21
France	77·01
Germany	46·97
Russia and Poland (mostly Jews)	28·67

This low Jewish infantile mortality in America exists in spite of the fact that the Jews live there in most cases under insanitary conditions and great over-crowding. But, in the same way as in the case of birth-rates, the infant mortality per 1,000 total population is an erroneous and misleading method of stating death-rates for the purposes of comparison, because not only is the Jewish *birth-rate* lower, giving a smaller number of infants that are liable to die, but the distribution of the population by age groups may not be the same in the two peoples under comparison. For example, in Ireland continuous emigration for many years has been

[1] Billings, *loc. cit.*

draining away the younger members of the community, thus giving a higher average age of the population. The infant mortality, therefore, in that country stated in terms per 1,000 total population is unduly high. The most reliable way of comparing infant death-rates is to state the rates of death of children under a certain age in terms of the total number of children under that age. Statistics stated in these terms also give the same results—viz., a much lower mortality rate for Jewish children. Thus, in Hungary during 1901-05 the death-rates were 165·5 per 1,000 Catholic births, as against only 98·2 among the Jews.[1] The figures given before the Royal Commission on Alien Immigration showed that between 1886 and 1890 the total infantile mortality for London increased from 153 to 161 per 1,000 births, but in Whitechapel, where the large bulk of Jews resided, it fell from 170 to 144. Similar figures were given for Manchester and Liverpool. Indeed, stated in whatever way, the same results are always obtained—viz., the Jewish infant mortality is much lower than that of non-Jews.

It is this low infantile mortality which makes the average *longevity* of Jews much greater than that of other nations. Thus—

(*a*) **Expectation of Life** at birth is: Among male Jews 63·51 years, and among Englishmen in general 41·92 years; among Jewesses 59·63 years, and among Englishwomen 45·25 years. The Jews also have a higher expectation of life at the ages of five, ten, and twenty-five years.[2]

[1] E. Auerbach, "Die Sterblichkeit der Juden in Budapest," in *Zeitschr. f. Demogr. und Stat. der Juden*, p. 152, 1908.

[2] Ruppin, *loc. cit.;* Billings, *loc. cit.*

(*b*) **Fate of 100 New-Born Children :**[1]

Among Jews.				*Among Christians.*			
50 will reach age of 50				50 will reach age of 30			
12	,,	,,	60–70	9·4	,,	,,	60–70
8	,,	,,	85–90	2·4	,,	,,	85–90

(*c*) **Average Duration of Life** in Budapest: among Jews thirty-seven and among Christians twenty-six years. This low infantile mortality is not due to any inherent racial vitality in the Jewish child, but, as has already been remarked on p. 383, it is due to the almost universal prevalence of breast feeding among Jewesses, to the lesser incidence or almost entire absence of transmissible taints resulting from diseases acquired by the parents in the worship of Venus and Bacchus, and, lastly, to the great general care bestowed on their children by Jewish parents, who fly to the doctor for almost every trifling infantile ailment. That this is the true explanation is proved by the following facts:

(*α*) Illegitimate, and therefore neglected, Jewish children have a higher mortality than non-Jewish children of the same class.

(*β*) Those infantile ailments whose prognosis depends upon the care with which the children are nursed—viz., measles and diphtheria—have as a rule a lower fatality amongst Jewish children; whilst in the case of diseases like meningitis, etc., in which nursing has little influence upon the results, the fatality rates are equal among Jewish and non-Jewish children.[2]

The low Jewish child mortality has a great influence on the general mortality tables, and makes the general

[1] M. Fishberg, "Comparative Pathology of Jews," *New York Medical Journal*, 1907.

[2] M. Fishberg, "The Jews," London, 1911, pp. 262, 263.

death-rate among Jews comparatively low; for, as the following figures will show, the relative mortality of Jews and Christians above the age of fifteen is nearly the same:

Years.	*Jews.*		*Christians.*	
	Under 15.	*Over* 15.	*Under* 15.	*Over* 15.
1878–1882	7·40	10·13	13·41	11·82
1888–1892	5·06	10·65	12·17	11·09
1893–1897	3·96	10·77	11·47	10·37

The figures for Warsaw, however, would suggest that the general Jewish mortality is low quite apart from the influence produced by the child death-rate, since in that city, as has been shown by Weneierow,[1] the Jewish infantile mortality is comparatively high, yet the Jewish general mortality is very low (17·9 per 1,000 Jews, and 28·1 per 1,000 Christians).

3. Excess of Births over Deaths.

In Prussia during 1822-1840 this excess was in the case of Jews 14·02 per 1,000, as against only 10·40 per 1,000 among Christians.

This excess, however, has gradually diminished during recent years, especially in Western Europe. Even in Austria the natural increase of Jews has been gradually declining. During the period 1869-1880 their increase was 22·88 per cent., as against an increase in the general population of 8·58 per cent. In 1880-1890 it was 13·42 per cent., as against an increase in general population of 7·91 per cent.; whilst during 1890-1900 the respective

[1] A. Nossig, "Judische Statistik," Berlin, 1903.

increases were Jews 7·14 per cent., Roman Catholics 9·12 per cent., Greek Catholics 11·38 per cent., and Protestants 15·71 per cent.

This gradual diminution in the increase of Jews in Western countries is due to the fact that their birth-rate has become so low, for the reasons outlined above, as to be even lower than their death-rate. Indeed, it may be stated that in those countries (England, France, United States, etc.) the increase of the Jewish population is almost entirely derived from the immigrants from Eastern countries. Thus, Fishberg[1] calculates that, if the 3,000 Jews in the United States in 1818 had increased normally, we should now have at least 50,000 Jews whose great-grandparents lived in the United States 100 years ago, but there is no such number. In China, the low birth-rate, together with intermarriages as well as absence of immigration of Jews, have practically wiped out Judaism altogether. In England the low birth-rate and high rate of intermarriage amongst the Sephardim (the Spanish and Portuguese Jewish Congregation) have prevented their increase.

4. Sex Ratio at Birth.[2]

Joseph Jacobs[3] gives lists of statistics from which it is seen that there is a greater excess of male over female births in the case of Jews. Thus, to take one example, in Austria between 1861 and 1870 for every 100 girls born alive there were born 128 Jewish boys, and only 106 Christian boys. There is, however, reason to believe that the statistics are not quite trustworthy. Dayan Feldman compiled a list of fifty-seven families in which

[1] *Jewish Chronicle*, August 18, 1916.

[2] See further, Chapter IX., p. 143.

[3] "Jewish Statistics," p. 57.

the Jewish separation or Niddah customs are strictly adhered to, and found that, out of a total of 402 children, 205 were males and 197 were females, giving a sex ratio of 1,040 males : 1,000 females. This ratio is practically the same as the ratio 1,040 : 1,000 given by the Registrar-General for England and Wales in the year 1910. These figures also tend to show that sex is not determined by the time of the fertilization of the egg relative to the catamenial period, as has been suggested by Thury.[1] (See, further, pp. 143 and 144.)

Sex Ratio at One Year.—Statistics quoted by Fishberg show that in 1897 there were 1,042 Jewish boys to 1,000 Jewish girls below one year of age.

5. Illegitimate Births.

These are much fewer amongst Jews, the number being one Jew against three to seven Christians. The only exception is Austria, but the high figures of the Jewish illegitimate births in that country are due to the well-known fact that the Austrian Jews omit the civil registration of their marriages. The issue of such marriages are therefore recorded as illegitimate. Hence, in certain towns in Galicia the records show the absurdly high figure of over 90 per cent. of illegitimate births.[2]

6. Stillbirths.

Recent statistics do not show any marked difference in this respect between Jews and non-Jews, although figures collected during the first three-quarters of the nineteenth century showed an advantage in the case of

[1] See Pearl and Salaman, "The Relative Time of Fertilization of the Ovum and the Sex Ratio amongst Jews," in *American Anthropologist*, vol. xv., No. 4, October-December, 1913, pp. 668-672.

[2] Jacobs, *loc. cit.*

the former, and were produced as evidence of the Jewish child's endowment with peculiar vitality even before birth.

7. Plural Births.

Plural births are, according to Jacobs, less among Jews.

Summary of the Vital Statistics of the Jewish Child.

1. Lower birth-rate and fewer plural births.
2. Very much lower death-rate.
3. Less stillbirths.
4. Fewer illegitimate births.
5. Possibly greater excess of male over female births.

B. Anthropometric Characters.

(*a*) **Height, Weight, and Chest Measurement.**—Relying upon Biblical descriptions, the Jews were shorter than other nations.[1] Modern statistics show that the Jews are shorter than the general European population, which has a medium height of 165 centimetres (=5 feet 6 inches).

We have seen (Chapter I., p. 7) that the average height of the Jews in Talmudical times was about 5 feet 6 inches.

Measurements taken by different observers[2] show that in the case of Jewish children—

1. Growth is very rapid up to the age of six years, whilst in the case of non-Jewish children growth slackens at four years of age.

2. Between six and eleven years growth is slower among Jews than among non-Jews.

3. Between eleven and sixteen years growth is again rapid.

[1] Deut. ii. 10, 11; Num. xiii. 33.

[2] Weissenberg, *Arch. f. Anthrop.*, vol. xxiii., pp. 347-423, 531-579.

Weissenberg[1] examined Jewish children at different ages, and found the following results:

Age.	*Height in Millimetres.*	*Annual Increase.*
4–5	1,016	—
5–6	1,086	70
6–7	1,121	35
7–8	1,156	35
8–9	1,202	46
9–10	1,247	45
10–11	1,280	33
11–12	1,345	65
12–13	1,377	32
13–14	1,448	71
14–15	1,432	34
15–16	1,558	76
16–17	1,601	43
17–18	1,611	10
18–19	1,641	30
19–20	1,640	1
21–25	1,648	8
26–30	1,659	11

Sack[2] found that Jewish school-children in Moscow were shorter than their non-Jewish colleagues, but Yaschinsky[3] found the opposite results in the case of Warsaw.

Fishberg found that Jewish school-children born in New York of immigrant parents grow faster than those born in Europe. The chief reason for this phenomenon is the fact that the parents of the children born in New York are on the average taller than those left in Europe, because it is only the physically stronger that venture

[1] "Die Südrussischen Juden," *Arch. f. Anthrop.*, vol. xxiii., pp. 347-579.

[2] "The Physical Development of Children" (in Russian), Moscow, 1892.

[3] "Anthropometric Material for the Determination of the Height, Weight, etc., of Poles and Jews" (in Russian), Warsaw, 1889.

abroad, those of poorer physique remaining at home; and we know that stature is transmitted from parents to children, the coefficient of correlation being as high as 0·50 (see Chapter II., p. 30). Another and less important reason is that the American-born children live under better sanitary conditions than those born in Eastern Europe. Indeed, the same authority has shown that the children of immigrant parents grow much taller than their parents. Thus, while the average height of 1,404 Jewish immigrants in New York was 164·2 cm., that of their children was found to be 167·9 cm., an increase of 3·7 cm. in height in one generation, obviously the result of better surroundings.[1]

MEASUREMENTS, TAKEN BY THE AUTHOR, OF AVERAGE HEIGHT, WEIGHT, AND CHEST MEASUREMENTS, OF 151 JEWISH AND 50 NON-JEWISH BOYS BETWEEN ELEVEN AND SIXTEEN YEARS OF AGE, AT WHITECHAPEL FOUNDATION SCHOOL.

Age.	*Height.*		*Weight.*	
	Jews.	*Christians.*	*Jews.*	*Christians.*
11–12	4 ft. 5½ in.	4 ft. 6 in.	4 st. 13 lb.	5 st. 12 lb.
12–13	4 „ 8½ „	4 „ 7½ „	5 „ 4 „	5 „ 5½ „
13–14	4 „ 8 „	5 „ — „	6 „ 3 „	6 „ 3½ „
14–15	5 „ — „	5 „ 1 „	6 „ 9 „	7 „ 4 „
15–16	5 „ 2½ „	5 „ 4 „	7 „ 10 „	8 „ 4 „

Circumference of Chest.

Age.	*Jews.*	*Christians.*
11–12	25½ in.	28 in.
12–13	26½ „	27¾ „
13–14	28½ „	28½ „
14–15	28½ „	30 „
15–16	30½ „	32 „

[1] See Fishberg, *op. cit.*, pp. 37, 38.

These statistics show that age for age Jewish children are as a rule shorter and lighter, and have a smaller chest measurement, than their non-Jewish colleagues. The numbers of boys are too small to give very reliable results, but these results agree with those found by Jacobs and Spielman in the case of large numbers of adult Jews. (See *Journ. Anthrop. Inst.*, xlx., 1889-90, pp. 76-88.)

(*b*) For **Cephalic Index,** see Chapter VI., p. 84.

(*c*) **Complexion** (colour of hair and eyes).—Virchow,[1] from an examination of over 75,000 Jewish school children, found 77 per cent. with dark hair and 32 per cent. with fair hair, 52½ per cent. with dark eyes and 46 per cent. with fair eyes—*i.e.*, the greater proportion was of a dark complexion. It will be remembered that in Biblical times "raven black" hair was considered to be an ideal of beauty.[2] In this connection it is interesting to notice that D. Macdonald, in a paper in *Biometrika* for July, 1911, found that children with dark hair and dark eyes have both a smaller morbidity as well as a smaller fatality rate from most of the acute specific fevers of childhood. This may partly explain the smaller mortality of Jewish children from such diseases.

(*d*) **Mental Ability of the Jewish Child.**—Joseph Jacobs, in a paper published in the *Journal of the Anthropological Institute*, 1886, finds that, *ceteris paribus*, Jews have contributed proportionately more than other nations to the ranks of distinguished persons, whether of the first, second, or third rank. "The foreign children of East London schools are universally allowed to be sharper and more intelligent than the English" (up to

[1] *Arch. f. Anthrop.*, vol. xvi., 1886, pp. 275-475.
[2] Cant. v. 11.

a certain age, according to Mr. H. Carter, B.A., Head-master, Whitechapel Foundation School), "and carry off a larger proportion of prizes and scholarships."[1] Statistics kindly collected for me by Mr. C. G. Martin, B.A., now Captain Martin, of Whitechapel Foundation School, show that, out of 142 Jewish boys, no less than 80 carried off scholarships—*i.e.*, 56 per cent., whilst the number of scholarships allotted to the 37 Christian boys was only nine—*i.e.*, only 25 per cent. Every child studies Hebrew, and also speaks Yiddish, in addition to the vernacular, and thus becomes practically a master of three languages.

(*e*) **The Physiognomy of the Jewish Child.**—Jacobs,[2] by means of composite photographs taken at the Jewish Free School, finds that the well-defined, somewhat bushy eyebrows, brilliant keen eyes, nose, and lips, as well as the position and contour of the cheek-bone serve to determine the remarkably Jewish appearance. Fishberg[3] does not believe in the specific physiognomy of Jewish children.

We have, however, seen in Chapter III. that not only is the Jewish physiognomy a typical feature, but that it is also a recessive Mendelian character.

To summarize the anthropological character of the Jewish child:

1. It is age for age shorter, lighter, and of less chest circumference, than the non-Jewish child.
2. He has a darker complexion (eyes and hair).
3. Is probably brachycephalic.
4. He has the peculiar "Jewish appearance."

[1] Russell and Lewis, *loc. cit.*

[2] "On the Racial Characteristics of Modern Jews," *Journ. Anthrop. Inst.*, vol. xv., 1885, p. 31.

[3] "The Jews," p. 104.

C. The Fate of the Jewish Child.

Commerce forms a very large proportion of the occupations of Jewish children when they leave school to earn a livelihood for themselves. In Russia the number of Jews engaged in commercial pursuits is ten times as great as that of Christians. Probably a large proportion take up one of the learned professions. Teaching is the favourite amongst the bulk of non-Jews, and medicine takes first place amongst the Jews more comfortably situated. Of the industrial occupations, tailoring is certainly the most popular one; next come bootmaking and carpentry.

The following table is copied from Jacobs' "Jewish Statistics" (p. 28):

Occupation (in Prussia).	*Jews.*	*Others.*
Agriculture ..	2·18	43·53 per cent.
Industry ..	18·97	39·41
Commerce ..	57·93	3·25
Service	6·73	3·25
Professions ..	3·55	2·15
Independent ..	4·18	2·30
Pauper	6·46	4·19

As Leroy Beaulieu says, the strength of the Jew "lies less in his arms than in his brain."[1]

[1] *Loc. cit.*, p. 176.

APPENDIX I

BIOGRAPHICAL INDEX OF THE MORE IMPORTANT RABBINICAL AND CLASSICAL BIOLOGISTS MENTIONED IN THE TEXT.

ABBA SAUL. A Rabbi of the first century A.D. As a grave-digger (Niddah 24*b*), he made several important observations in embryology and pathology (p. 122: 3rd ref.). He described a sound for differentiating between the male and female sex in an embryo (124: 6). He also studied postmortem the deleterious effects of alcohol upon the skeleton (Niddah, 24*b*).

ABBAYE (surnamed Nachmani). Head of the Academy at Pumbeditha, which was famous for its subtle argumentations (see p. 311). Born 280 and died 338 A.D. A Rabbi well versed in medical lore, mostly acquired from his nurse, to whom he constantly refers as his mother. He described a method for treating facial spasm in an infant (180: 5), an operation for imperforate anus (201: 1), and artificial respiration for babies born in a state of asphyxia (175: 4). For his theory of twins, see pp. 136 and 137. The treatment of impotence recommended by R. Jochanan (39: 5) is also due to him. His controversies with Rava (*q.v.*) are numerous and famous.

ABEN EZRA. See *Ibn Ezra*.

ÆSCULAPIUS. In Greek mythology he was the God of Medicine and the son of Apollo, but Homer speaks of him as a mortal, and regards him as the founder of the art of healing [p. 24].

ÆTIUS. Greek medical writer of the sixth century [p. 103].

AKIBA, R. Great Rabbi of the first and second centuries, A.D. He lived 120 years. For his romantic marriage, see p. 63. He is mentioned in the Midrash (Sam. iv. 1) as having practised

medicine, probably as a layman. For his opinion on the influence of ante-natal environment on the subsequent career of a child, see p. 115, and for his belief in the healing power of Nature, see pp. 370 and 371. See also 261: 5.

ARISTOTLE. Greek philosopher (384-322 B.C.). A disciple of Plato, he was the founder of the science of comparative anatomy [*passim*].

ASSI, R. A Rabbi of the second or third century. Experimental embryologist and pathologist (see p. 376). Some of his experiments with birds' eggs are recorded in Num. R. xix.

AVERROËS (or Ibn Rosch). A famous Arabian physician and philosopher. Born in Cordova, 1126, and died 1198 A.D. Has been called the Mohammedan Spinoza. He was greatly influenced by the writings of Aristotle, and in turn influenced Maimonides [p. 101].

AVICENNA (or Ibn Sina). Arabian physician and philosopher (980-1037 A.D.). Famous for his great work the *Canon of Medicine* [pp. 100, 129].

BEN ZOMA (R. Simon). Rabbi and metaphysicist of the second century. Pupil of R. Akiba [p. 101].

CELSUS, CORNELIUS. Famous Roman physician (50 B.C. to 7 A.D.) [p. 261].

CHANINA BEN CHAMA, R. (180-260 A.D.). Disciple of R. Judah the Prince. President of the Academy at Zippori (Sepphoris). Mentioned in Yoma 49*a* as "an expert physician," and in 20*b* as a "hæmatologist." He held fatalistic views, for he said that "Nobody hurts even his finger here below unless it has been so decreed above" (Chulin 7*b*) [p. 370].

GALEN (Claudius Galenus). Roman physician and philosopher, 130-200 A.D. [*passim*].

GAMLIEL III. (son of Rabbi). Died 204 A.D. For his remedy for splenic diseases, see p. 379. The test for virginity given on p. 40 is also mentioned as having been applied by him (Kethub. 10*b*.).

HESIOD. Greek philosopher, generally considered a contemporary of Homer, but really lived long after him—viz., about 850 B.C. [p. 29].

HILLEL. Great Rabbi of the first century B.C. Hygienist and natural scientist (Soferim, xvi. 9). For his ethnological observation, see pp. 336, 337.

HIPPOCRATES. "The father of medicine." Greek physician, born 460 B.C. According to Galen, the greater part of Aristotle's Physiology was taken from Hippocrates [*passim*].

HOMER. Greek poet of the twelfth century B.C. Author of the "Iliad" and the "Odyssey."

IBN EZRA (Abraham). Jewish philosopher and mathematical astronomer (1092-1167 A.D.). A contemporary of Maimonides (*q.v.*) [p. 123].

ISHMAEL, R. A Rabbi and embryologist of the first century (see 126: 6; 127: 1; also 44: 4). His pupils studied practical anatomy by the dissection of human bodies (Bechoroth 45*a*).

KATZ, RABBI DR. TOBIA. Lived in the sixteenth century. Professor of Medicine in Constantinople [pp. 155, 161, and other places].

MAIMONIDES (surnamed R^{a}mb^{a}m, from the initials of his full name, R. Moses ben Maimon). Rabbi, philosopher, physician, and mathematical astronomer. Physician to the Sultan of Egypt. Very prolific writer. Born in Cordova, 1135, and died in 1204 [*passim*].

MEIR, R. A. Rabbi of the second century. The explanation of the amenorrhœa of pregnancy (98: 2) is due to him. See also 261: 10.

MOSCHION (Diorthortes). Roman gynæcologist and obstetric physician of the sixth century C.E. [pp. 177, 188, and other places].

PLATO. Greek philosopher and medical scientist (427-347 B.C.) [*passim*].

PLINY. Early Roman natural historian (23-79 A.D.) [*passim*].

PYTHAGORAS. Greek philosopher and physician. Born 582 B.C. [p. 34].

RAMBAM. See *Maimonides*.

RAVA (or Raba). Rabbi and hæmatologist (280-350 A.D.) Founder and head of the Academy at Machuza. He always controverted the views of Abbaye (*q.v.*) [p. 243 and *passim*].

SAMUEL, MAR (surnamed Yarchinai). Rabbi, physician, gynæcologist, embryologist, and astronomer. Born in Nehardea about 180 and died there in 257 A.D. He was president of the Academy in that city, as well as physician to R. Judah the Prince (Baba Metzia 85*b* and 86*a*). See pp. 108, 127, 160, 286, 288, and other places. He disputed the view which was prevalent in his time to the effect that disease was caused by the evil eye (Baba Metzia 107*b*). See p. 370. The statements 260 : 1 and 270 : 13 are also attributed to him. He also described a vaginal speculum (Niddah 66*a*).

SIMON BEN CHALAFTA, R. A Rabbi of the second or third century. He was an experimental physiologist and pathologist (see p. 376). Another experiment of his which will interest the most up-to-date surgeon is recorded in Chulin 57*b*. He had a hen which was suffering from necrosis of the femur, so he replaced the bone with a rigid cylindrical tube and the hen recovered. He also experimented with ants. (*Ibid.*)

SORANUS OF EPHESUS. Roman physician and gynæcologist of the first century. He wrote a complete treatise on gynæcology, and described a vaginal speculum [see p. 41].

THUDAS. Famous Jewish physician of the first century (see p. 376). It is also recorded of him that he was an expert osteologist (Nazir 52*b*). He was the medical referee to the Ecclesiastical Court.

APPENDIX II

SHORT INDEX OF QUOTATIONS, GIVING THE ORIGINAL OF SOME OF THE MORE INTERESTING RABBINICAL CITATIONS

NOTE.—Where there is a discrepancy between a reference as given in the text and in this appendix, the latter is to be taken as the correct one.

ABODA ZARAH.

10b Tosafoth (161 : 2) מעשה שמתה אמו בלדתה, ונבקעת בטנה ומצאו בו חי... ונקרא קיסר בלשון רומי והוא לשון כרות בעברית, ועל שמו נקראים כל המלכים שלאחריו קיסר.

19a (296 : 4) כל הלומד תורה מרב אחד אינו רואה סימן ברכה לעולם.

20a (13 : 3) ר"ע ראה אשת טורנוסרופוס הרשע, רק שחק ובכה; רק שהיתה באה מטפה סרוחה... בכה דהאי שופרא בלי עפרא.

20b (258) טהרה מביאה לידי קדושה.

24a (116 : 6) כוס אדום מעבירין לפניה בשעה שעולה עליה זכר.

26a (185 : 3) ועכו"ם לא תניק את בנה... דזימנין דשייפא ליה סם לדד מאבראי וקטלא ליה.

35b (191 : 10) חלב...טהור חיור, טמא ירוק...טהור עומד, טמא אינו עומד.

ABOTH.

i. 17. (335 : 8) לא המדרש הוא העיקר אלא המעשה.

ii. 5. (298 : 2 & 335 : 6) לא הקפדן מלמד... ולא עם הארץ חסיד.

iii. 18 (287 : 1) הלכות תקופות וגמטריאות פרפראות לחכמה.

iv. 1 (336 : 1) איזהו גבור הכובש את יצרו.

iv. 20 (277 : 5) הלומד ילד... דומה לדיו כתובה על נייר חדש והלומד זקן... לדיו כתיבה על נייר מחוק.

v. 5 (114 : 3) לא הפילה אשה מריח בשר הקודש.

vi. 4 (275 : 3) פת במלח תאכל ומים במשורה תשתה... ובתורה אתה עמל.

vi. 5 (6 : 5) גדולה תורה מן הכהונה.

ABOTH d'R. NATHAN.

xi. 2 (307 : 5) כל המגביה עצמו על דברי תורה... דומה לנבלה מושלכת בדרך, כל עובר ושב מניח ידו על חוטמו ומתרחק ממנה והולך.

xxiii. 4 (277 : 6) הלומד תורה בילדותו דומה לרופא שהביאו לפניו מכה ויש לו איזמל לחתוך וסמני רפואות לרפאות.

xxix. 2 (297 : 2) כל מי שיש בידו מדרש ואין לו הלכות זה גבור ואינו מזוין.

xxxi. 1 (186 : 1) הלוקח תבואה מן השוק למה הוא דומה? לתינוק שמתה אמו ומחזירין אותו על פתחי מיניקות ואינו שבע, האוכל משלו דומה להתינוק המתגדל על שדי אמו.

xxxi. 3 (151 : 5) ויצר באדם כל מה שברא בעולמו...

xxxv. 5 (270 : 9) וכשהיו מרבים לאכול בשר הקדשים, היו שותים את מי השילוח ומתעכל במיעיהן.

BABA BATHRA.

BABA KAMA.

BABA METZIA.

BABA METZIA — CONTINUED

83b (374 ; 12 & 375 ; 1) אשקיוהו סמא דשינתא ועילוהו לביתא דשישא וקרעו לכריסיה...

84a (358 : 5) יומא חד הוה קא סחי ר׳ יוחנן בירדנא, חזייה ריש לקיש ושוור לירדנא אבתריה. אמר לו חילך לאורייתא. א״ל שופרך לנשי...

BECHOROTH.

8a (133 : 4) כל שתשמישן ועיבורן שוה יולדים ומגדלים זה מזה.

43b (129 : 2) המפלת בריה שיש לה שני גבין ושתי שדראות...

44a (10 : 4). חוטמו גדול : תנא כאצבע קטנה.

45b (29 : 6) גבוה לא ישא גבוהית שמא יוצא מהן תורן, ננס לא ישא ננסת שמא יצא מהן אצבעי, לבן לא ישא לבנה שמא יצא מהם בוהק, שחור לא ישא שחורה שמא יצא מהם טפיח.

46b (156 : 2) יצא כדרכו, משיצא רוב ראשו, ואיזהו רוב ראשו משתצא פדחתו.

47b (170 : 6) יוצא דופן והבא אחריו שניהן אינן בכור לנחלה ולא לכהן.

BEITZA.

23b (230 : 2) עגלה של קטן (רש״י שעושין לו לשחוק ויושב עליה ומטלטלין אותו עליה.)

BERACHOTH.

3a (181 : 4) ג׳ משמרות הוי הלילה... שלישית תינוק יונק משדי אמו...

4a (120 : 1) כך אמר דוד לפני הקב״ה... אני ידי מלוכלכות בדם ובשפיר ובשליא.

7a (26 : 1) צדיק וטוב לו : צדיק בן צדיק, צדיק ורע לו : צדיק בן רשע...

BERACHOTH — CONTINUED

17a (232 : 2) נשים במאי זכיין, באקרויי בניהו לבי כנישתא.

20a (115 : 2) ר' יוחנן הוה רגיל דהוה קא אזיל ויתיב אשערי דטבילה, אמר כי סלקן בנות ישראל ואתיין מטבילה מסתכלן בי ונהוי להו זרעא דשפירי כוותי.

43b (263 : 5) ששה דברים גנאי לו לת"ח. אל יצא כשהוא מבושם בשוק... ואל יצא במנעלים המטולאים...

44b (269 : 2) טבא ביעתא מגולגלתא משיתא קייסי סילתא.

55b (17 : 5) הלמא דלא מפשר כאגרתא דלא מקריא.

57b (274 : 9) שינה אחד מששים למיתה.

58a (389 : 2) רב ששת סגי נהור הוה... א"ל (צדוקי) חצבי לנהרא כנני לייא ?...

58b (272 : 9) אנחה שוברת חצי גופו של אדם...

58b (288 : 1) נהירין לי שבילי דשמיא כשבילי דנהרדעא, לבר מכוכבא דשביט דלא ידענא מאי ניהי.

60a (140 : 6) הכא במאי עסקינן כגון שהזריעו שניהם בב"א.

60a (141 : 4) היתה אשתו מעוברת ואמר יהי רצון שתלד זכר ה"ז זו תפלת שוא.

62b (270 : 11) עד דרתחא קדרך שפוך.

62b (270 ; 13) יציאה בעמוד השחר כאסטמא לפרזלא.

CHAGIGAH.

14b, & 15a (101 : 1) ד' נכנסו לפרדס... בן זומא הציץ ונפגע... שאלו את בן זומא, בתולה שעיברה מהו לכ"ג... אמר להו חיישינן שמא באמבטי נתעברה.

CHULIN.

24b (177 : 1) חמין ושמן שסכתני אמי בילדותי הן עמדו לי בעת זקנותי.

49b (191 : 9) שלשה משקים אסורים משום גילוי, היין, והמים והחלב.

57b (377 : 9) רחל אחת היתה שנקדר קנה שלה, ועשה לה קרומין של קנה וחיתה.

57b (376 : 1) ר' שמעון בן חלפתא עסקן בדברים היה...

69a (41 : 4) פשיטא דמבלבל זרעיה, דא"כ סומא יוליד סומא וקיטע יוליד קיטע.

69b (161 : 3) יצא שליש דרך דופן ושני שלישי דרך רחם...

71a (157 : 5) האשה שמת ולדה בתוך מיעיה ופשטה חיה את ידה ונגעה בו...

84a (28 : 10) אבא ממשפחת בריאים הוה, אבל כגון אנו מי שיש לו פרוטה בתוך כיסו יריצנה לחנוני.

DERECH ERETZ R.

i. (23 : 1) הנושא אשה שאינה הוגנת לו הקב"ה שונאו, אליהו רוצעו, אוי לו לפוסל את זרעו ולפוגם את משפחתו.

DERECH ERETZ ZUTAH.

ix (151 : 6) העוה"ז דומה לגלגל עינו של אדם. לבן שבו זה אוקינוס שמקיף את העולם, שחור שבו זה העולם, קומט שבשחור זה ירושלים, פרצוף שבקומט זה בית המקדש.

ERACHIN.

7a (119 : 1) האשה שיצאה ליהרג אין ממתינין לה עד שתלד...

7a (160 : 1) האשה שישבה על המשבר ומתה בשבת, מביאין סכין ומקרעים אר כריסה ומוציאין את הולד.

ERUBIN.

13b (292 : 2) כל שיש בהקיפו שלשה טפחים, יש בו רוחב טפח.

17b (254 : 5) מים אחרונים חובה, מפני שמלח סרומית יש שמסמא את העינים.

43b (288 : 4) שפופרת היהה לו לר"ג שהיה מביט וצופה בה אלפים אמה...

53a (305 : 3) אנן כי אצבעתא בבירא לשכחה.

57a (292 : 1) כל אמתא בריבוע, אמתא ותרי חומשא באלכסונא.

65a (273 : 4) לא איברי סהרא אלא לגירסא.

65a (273 : 5) השתא אתו יומי דאריכי וקטיני ונינום טובא.

76b (292 : 3) מרובע יותר על העיגול רביע...

100b (28 : 8) ומעוף השמים יחכמנו, זה תרנגול שמפייס ואח"כ בועל... ומה מפיים לה... הרי אמר לה... אי אית ליה ולא זבינגא ליך?

104a (274 : 5) מטיפין מיארק לחולה בשבת.

GENESIS RABBA.

xii.6 (174 : 4) הולד יוצא ממעי אמו באמה גדומה (פירוש בערוך באמה ותוספות).

xiv.2 (174 : 1) מנין שהנוצר לשבעה חי, אמר להו, מרדכון אנא מסמא לכון: ז"מ"א אפט"א, א"מ"א אוכט"א, (כלומר בן ז' יחיה ובן ח' ימות).

lx.3 (159 : 1) בין חייתא למחבלתא אזיל ברא דעלובתא.

xci.5 (209 : 2) כיון שחזק הרעב בארץ נתקבצו המצרים ובאו אצל יוסף, אמרו לו תן לני לחם. אמר להם לכו ומלו את עצמכם ואתן לכם. הלכו אצל פרעה והיו צועקים ובוכים לפניו... אמר להם שוטים לא כך אמרתי לכם מתחלה: עבדוהו וקנו עצמכם תבואה,

GITTIN.

11b (220 : 4) גיטין הבאים ממדינת הים ועדים חתומים עליהן, אף על פי ששמותיהן בשמות עכו"ם כשרין מפני שרוב ישראל שבחו"ל שמותיהן כשמות עכו"ם.

19b (286 : 2) נתן לה נייר חלק ואמר לה הרי זה גטך מגורשת; חיישינן שמא במי מילין כתבו.

52a (17 : 2) דברי חלומות לא מעלין ולא מורידין.

57a (71 : 6) לובן ביצה סולד מן האור, ושכבת זרע דוחה מן האור.

57a (169 : 1) אשקא דריספק חריב ביתר... ינוקא שתלי ארזא, ינוקתא שתלי תורניתי.

58a (11 : 3) מעיקרא חשיבי דרומאי הוי נקטי בליונא דגושפנקא ומשמשי ערסייהו, מכאן ואילך מיתו בני ישראל ואסרי בכרעי דפורייהו ומשמשי.

67b (272 : 2) גדולה מלאכה שמחממת את בעליה.

70a (39 : 5) מי שאינו בקי בדרך ארץ, ליתי ג' קפיזי קורטמי... א"ר יוחנן הן הן החזירוני לנערותי.

HORYOTH.

10a (290 : 1) כוכב אחד לשבעים שנה עולה ומתעה את הספינות... ר' אליעזר חסמא ור' יוחנן בן גודגדא יודעין לשער כמה טפות יש בים ואין להם פת לאכול ולא בגד ללבוש.

KETHUBOTH.

16a (107 : 3) הרי כרסה בין שיניה.

10b (40 : 8) בעולה ריחה נודף, בתולה אינה ריחה נודף.

50a (296 : 6) יהא אדם מתגלגל עם בנו עד י"ב שנים, מכאן ואילך יורד עמו לחייו.

KETHUBOTH — CONTINUED

KETHUBOTH — CONTINUED

77b (16 : 1) הקיז דם ושימש הויין לו בנים ותיקין. הקיזו שניהם ושימשו הויין לו בנים בעלי ראתן.

77b (374 ; 5 & 375 ; 1) מעייל ליה לביתא דשישא, ואי לא איכא ביתא דשישא...לביתא דשב לבני ואריחא, ונטיל לו תלת מאה כסי על רישיה עד דרפיא ארעיתא דמוחיה וקרע למוחיה...

103b & 104a (267 : 7) רבי בבית שערים הוה אלא כיון דחל"ש אסטיוהו לציפורי דמדליא ובסים אוירא.

110b (267 : 6) ישיבת כרכים קשה (רש"י, שהכל מתיישבין שם ודוחקין ומקרבין הבתים זה לזה, אבל בעיר יש גנות ופרדסים סמוכים לבתין ואוירן יפה.)

KIDDUSHIN.

2b (65 : 3) דרכו של איש לחזור על אשה, ואין דרכה של אשה לחזור על איש...

17a (300 : 1) תפשתה מרובה לא תפשתה.

24a & b (230 : 4) יוצא בשן ועין... צריכא, דאי כתב רחמנא שן הוה אמינא אפילו שן דחלב...

29a (294 : 3) האב חייב בבנו... ללמדו אומנות, וי"א אף להשיטו במים... כל שאינו מלמד את בנו אומנות... כאלו מלמדו ליסטות.

29b (34 : 2 & 56 : 7) האי דעדיפנא מחבראי דנסיבנא בשיתסר, ואי הות נסיבנא בארביסר הוה אמינא לשטן: גירא בעיניך.

69b (80 & 89 : 1) לא עלה עזרא מבבל עד שעשאה כסולת נקיה.

70a (28 : 1 & 45 : 3) הנושא אשה לשום ממון הויין לו בנים שאינם מהוגנים.

82a (208 : 3 & 4) לא ישא אדם רווק סופרים ולא תלמד אשה סופרים.

MENACHOTH.

37a (185 & 230 : 3 & 5) קרקיד היכא, אמרי דבי ר' ינאי מקום שמוחו של תינוק רופס(רש"י, רך כשהוא קטן בן שנה).

MOED KATAN.

9b (29 : 1) רב ביבי דשתי שכרא בעיין בנתיה מפלא, אנן דלא שתינן שכרא לא בעיין בנתין טפלא.

9b (70 : 5) בת שיתין כבת שית לקל טבלא רהמא.

14a (231 : 4) קטן הנולד במועד מותר לגלח במועד שאין בית האסורין גדול מזה.

17a (248 : 1) ולפני עור לא תתן מכשול: במכה לבנו הגדול דכתוב מדבר.

NEDARIM.

49b (269 : 3) למיכל דייסא עד פרסה, למיכל בישרא דתורא עד תלתא פרסין.

60a (45 : 1) בנות ישראל נאות הן אלא שהעניות מנוולתן.

66b (9 : 1 & 12 : 3) שמא ראשה נאה? ... כגלגל... שמא שמה נאה? לכלוכית שמה.

81a (255 : 6, 260 : 3 & 261 : 1) האי ערביביתא דרישא מתיא לידי עוירא, ערבוביתא דמאני מתיא לידי שעמומיתא, ערביביתא דגופא מתיא לידי שחנא.

90b (38 : 7) שלש נשים יוצאות ונוטלות כתובה. האומרת... שמים ביני לבינך...

NEGAIM.

ii,1. (9 : 4) בני ישראל, אני כפרתם, הרי הם כאשכרוע, לא שחורים ולא לבנים, אלא בינונים.

NIDDAH.

9a (99 : 2) דם נעכר ונעשה חלב.

17b (354 : 5) שלשה שנאתי... והנכנס לבית חברו פתאום.

20b (243 : 1) אפרא הורמיז אמיה דשבור מלכא שדרה דמא לקמיה דרבא...דם כנים...ושדר לה סריקותא דמקטלי כלמי.

23b (129 : 1) המפלת... ושמו אטום אמו טהורה.

24a (129 : 3) המפלת את שנולגלתו אטומה אמו טהורה.

25a (124 : 4) תחלת בריאתו (של שפיר מרוקם) הוא כרשום, שתי עיניו כשתי טיפין של זבוב... ופיו מתוח כחוט השערה...

25b (127 : 2) ההוא שפירא דאתאי לקמיה דמר שמואל, אמר הא בר מ"א יומא וחשב מיומא דאזלא לטבילה עד ההוא יומא ולא הוה אלא מ׳ יומין, נאמר להו, האי בנדה בעל, כפתיה ואודי.

25b (137 : 8) אין סנדל שאין עמו ולד.

26a (112) אין שליא בלא ולד.

27a (137 : 1) מעשה ונשתהה הולד אחר חברו ג׳ חדשים... אמר אביי טיפה אחת היתה ונתחלקה לשתים, אחד נגמרה צורתו בתחלת ז׳ ואחד בסוף ט׳.

28a (140 : 2) אשה מזרעת תחלה יולדת זכר, איש מזריע תחלה יולדת נקבה.

30b (135 : 4 & 128 ; 1) הולד דומה במעי אמו לפנקס שמקופל ומונח על שתי צדעיו...ופיו סתום וטבורו פתוח, וכיון שיצא לאויר העולם נפתח הסתום ונסתם הפתוח, שאלמלא כן אינו יכול לחיות אפילו שעה אחת.

30b (127 : 1) מעשה בקליאופטרא מלכת אלכסנדריה שנתחייבו שפחותיה הריגה למלכות, ובדקן ומצאן...

NIDDAH — CONTINUED

OHOLOTH.

PESSACHIM.

42a (191 : 6)	נסיובי דחלבא.
42a & b (269 : 1)	ג׳ דברים ממעטין את הזבל ווקפין את הקומה, ומאירין את העינים ; פת נקיה, בשר שמן ויין...
49a & b (22 : 4)	משל לענבי הגפן בענבי הסנה,
49b (27 : 2)	כל המשיא בתו לעם הארץ כאילו כופתה ומניחה לפני ארי... מכה ובא עליה ואין לו בושת פנים.
89b (300 : 8)	אדאכיל רב הונא חדא, אכיל רב פפא ארבע...אדאכיל רב הונא חרא אכיל רבינא תמניא, אמר מאה פפי ולא חרא רבינא.
94a (289 : 3)	שיתא אלפי פרסי הוי עלמא.
109a & b (7 : 3)	מים שכל גופו עולה בהן וכמה הן, אמה על אמה ברום שלש אמות.
112a (15 : 3)	לא תבשל בקדירה שבישל בה חברך, מאי ניהו? גרושה בחיי בעלה, דאמר מר גרוש שנשא גרושה ארבע דעות במטה...
112a (378 : 1)	ידא אפיתא דרגא לשינתא.
112a (298 : 5)	אם בקשת ליחנק היתלה באילן גדול.
112a (303 : 6)	כשאתה מלמד את בנך למדהו בספר מוגה.
112a (182 : 3)	יותר ממה שהעגל רוצה לינק, פרה רוצה להניק.
112a (341 : 4)	עשה שבתך חול ואל תצטרך לבריות.
113a (246 : 4 & 250 : 2)	בתך בגרה שחרר עברך ותן לה.
113a (261 : 11)	לא תעקר כבא.

ROSH HASHANAH.

24a-ii.6 (288 : 3)	דמות צורות לבנה היו לו לר״ג בטבלא ובכותל...
25a (107 : 3)	האיך מעידים על האשה שילדה ולמחר כריסה בין שיניה?

REGIMEN SANITATIS (MAIMONIDES).

iv.1 (267 : 2)	כי השמש תתיך מיפוש האויר.

SABBATH.

SANHEDRIN.

17b (278 : 6) כל עיר שאין בה עשרה דברים הללו אין ת"ח רשאי לדור בתוכה... ומלמד תינוקות.

21b (374 : 7) וחמשים איש רצים לפניו, מאי רבותא, א"ר יהודה א"ר כולן נטילי טחול וחקוקי כפות רגלים היו.

22b (55 : 4) אשה גולם היא ואינה כורתת ברית אלא למי שעשאה כלי, שנאמר כי בועליך עושיך.

29a (294 : 3) שב שני הוה כפנא ואבבא אומנא לא חליף.

39a (65 : 4) ולא יפה היה לו לאדם הראשון שנטלה ממנו צלע אחת ונתנה לו אשה במקוטה?

49a (161 : 1) בדופן חמישית. מקום שטרה וכבד תלויין בו.

76a (29 : 3) אל תחלל את בתך להזניתה...זה המשיא את בתו לזקן.

92b (5 : 1) היו בהן בחורים שהיו מגנין את החמה ביופין והיו כשדות רואות אותן ושופות זבות (מחמת תאוה).

93a (376 : 3) אין פרה והזירה יוצאה מאלכסנדריא של מצרים שאין חותכין האם שלה בשביל שלא תלד.

100b (18 : 3) בת לאביה מטמונת שוא...

SOTAH.

8b (69 : 3) שליח ערטיל וסיים מכאני.

12a (103 : 7) מכאן לנשים צדקניות שלא היו בפתקא של חוה.

20a (294 : 6) כל המלמד בתו תורה כאילו לומדה תפלות.

36b (246 : 2) באותה שעת באתה דיוקנו של אביו ונראתה לו בחלון... מיד... שבה קשתו לאיתנו... ויצא תאותו מבין צפרני ידיו.

47a (302 : 5) לעולם תהא שמאל דוחה וימין מקרבת.

TAANITH.

TAMID.

YEBAMOTH.

YOMA.

18b (246 ; 3) אינו דומה מי שיש לו פת בסלו למי שאינו פת בסלו.

29a (245 ; 2) הרהורי עבירה קשו מעבירה.

66b (295 ; 9) אין חכמה לאשה אלא בפלך.

72b (299 ; 4) כל ת"ח שאין תוכו כברו... נקרא נתעב.

78b (176 ; 4) רביתיה דינוקא מיא חמימי ומשחא, גדל פורתא תבורא מאני.

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BAILLIÈRE, TINDALL AND COX, 8 HENRIETTA STREET, COVENT GARDEN, LONDON.

